

Novel Method for Synthesizing Spiro[4.5]cyclohexadienones through a Pd-Catalyzed Intramolecular *ipso*-Friedel-Crafts Allylic Alkylation of Phenols

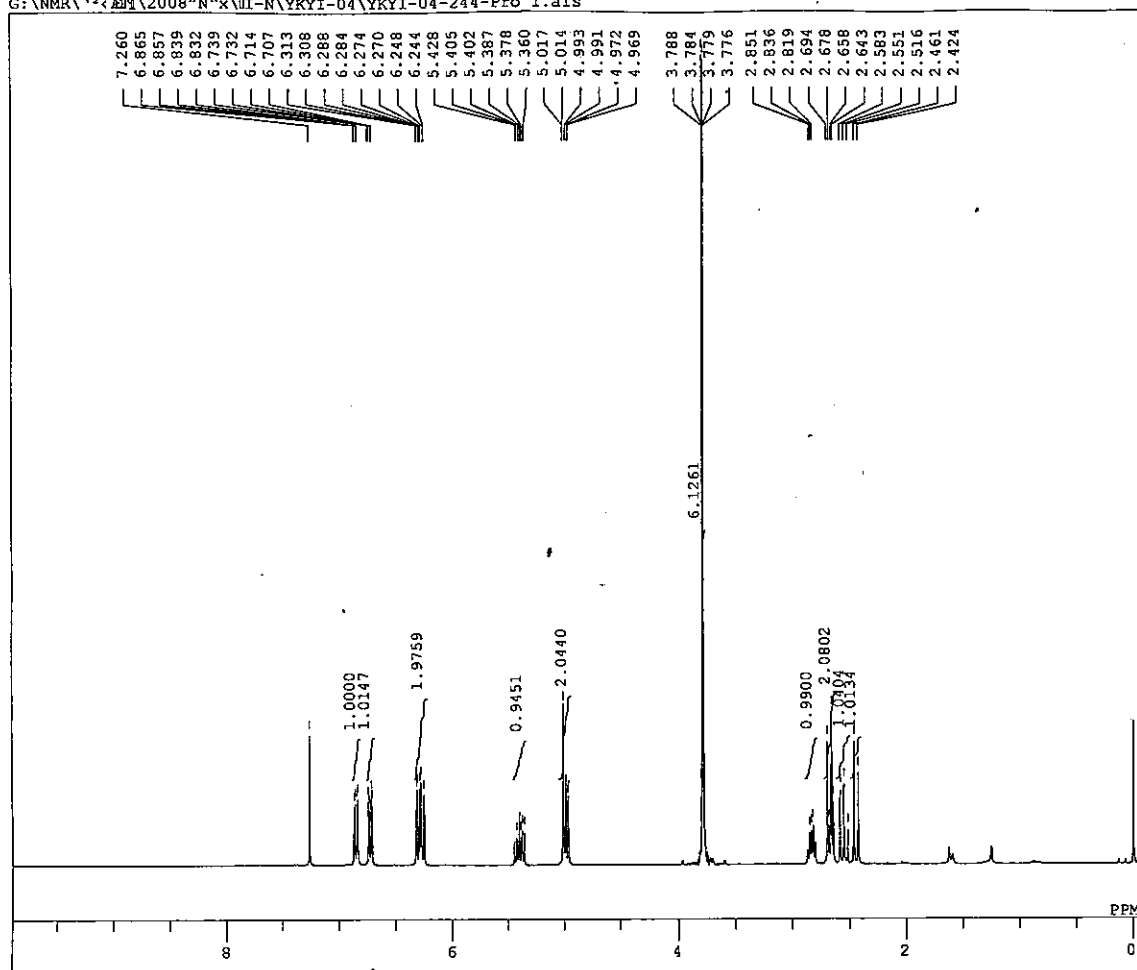
Tetsuhiro Nemoto, Yuta Ishige, Mariko Yoshida, Yuta Kohno, Mutsumi Kanematsu, and Yasumasa Hamada*

Supporting Information (2)

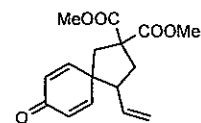
5. ^1H and ^{13}C NMR Charts of New Compounds (S-32–S-97)

YKYI-04-244-Pro

G:\NMR\12< 2008"N"x\01-N\YKYI-04\YKYI-04-244-Pro 1.als



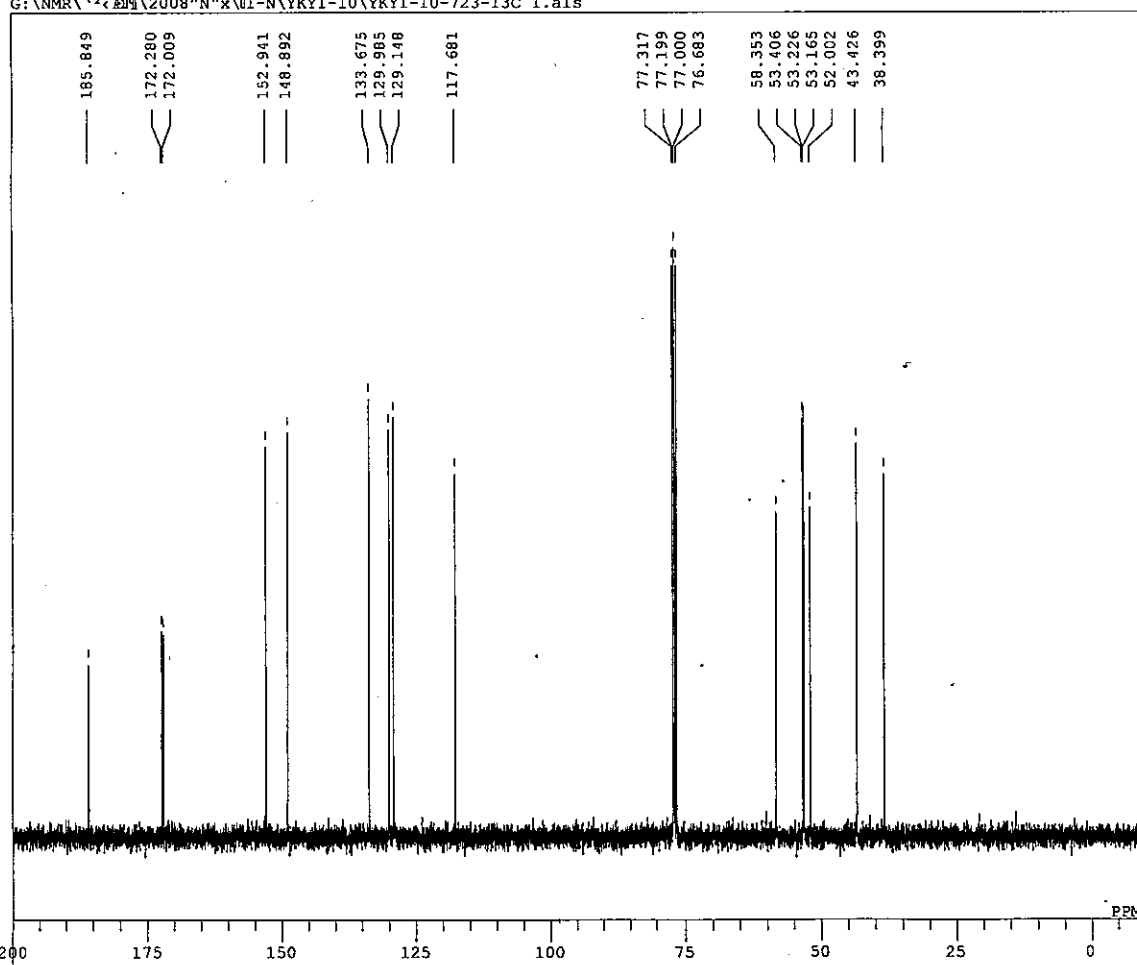
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OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 6
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 22.1 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 20



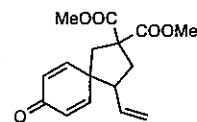
¹H NMR: 4a

YKYI-10-723-13C

G:\NMR\12< 2008"N"x\01-N\YKYI-10\YKYI-10-723-13C 1.als



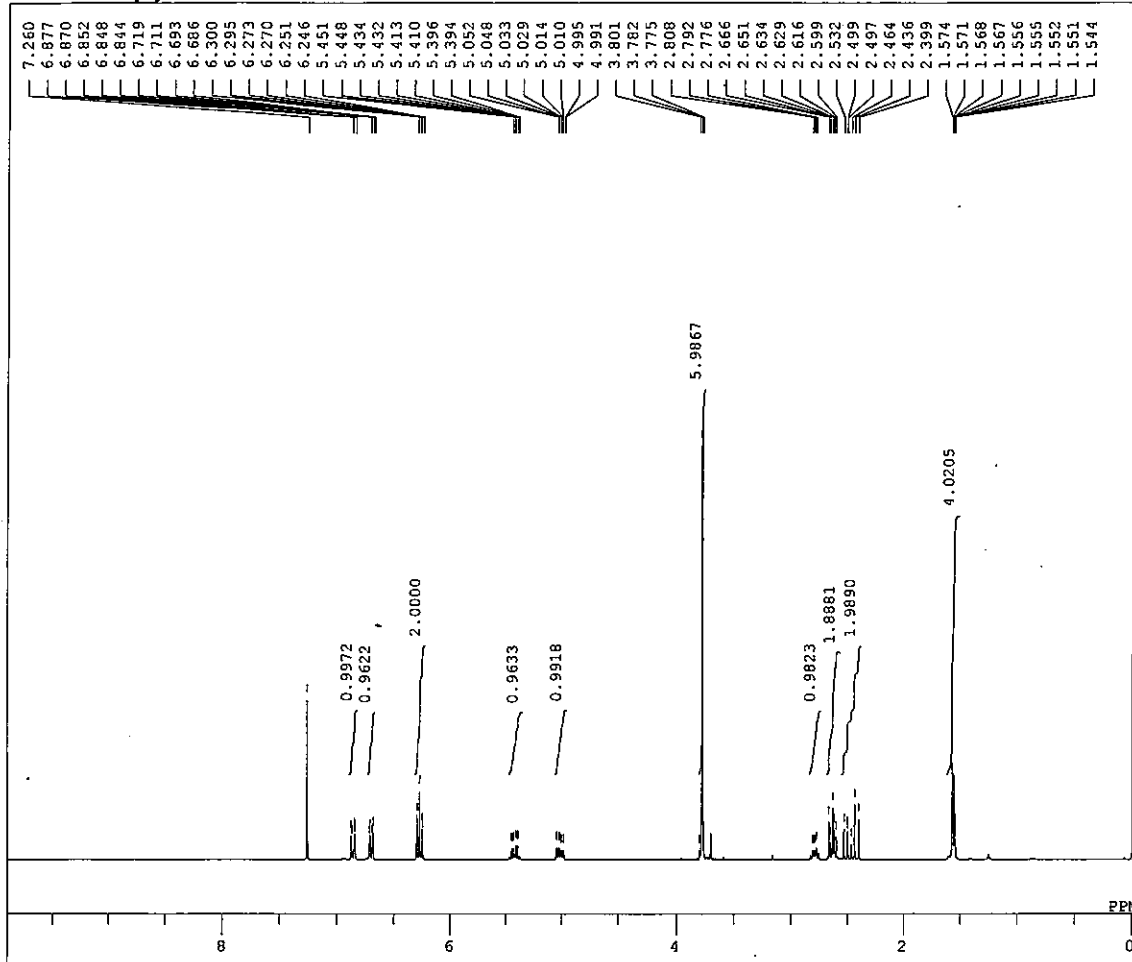
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COMNT KYKI-10-723-13C
DATIM 18-FEB-2009 15:19:01
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 43
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 18.7 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



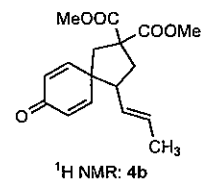
¹³C NMR: 4a

ykyk06-me2

G:\NMR\kf-1\ykyk06-me2 1.als

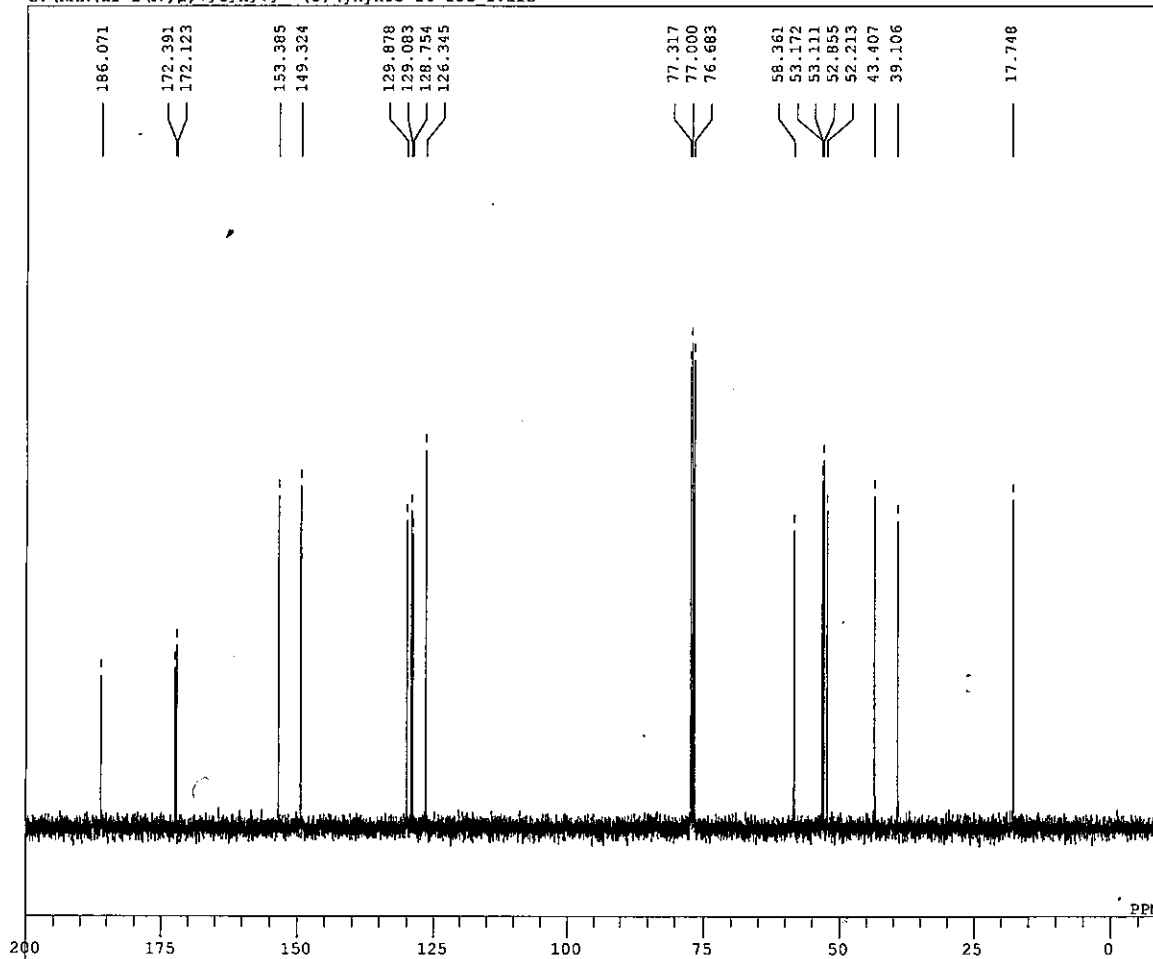


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 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 22.7 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 18

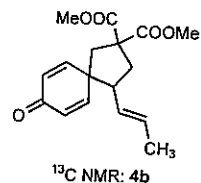


ykyk05-f6-13c

G:\NMR\kf-1\OV,u,6ftfHf6f (3)\ykyk05-f6-13c 1.als

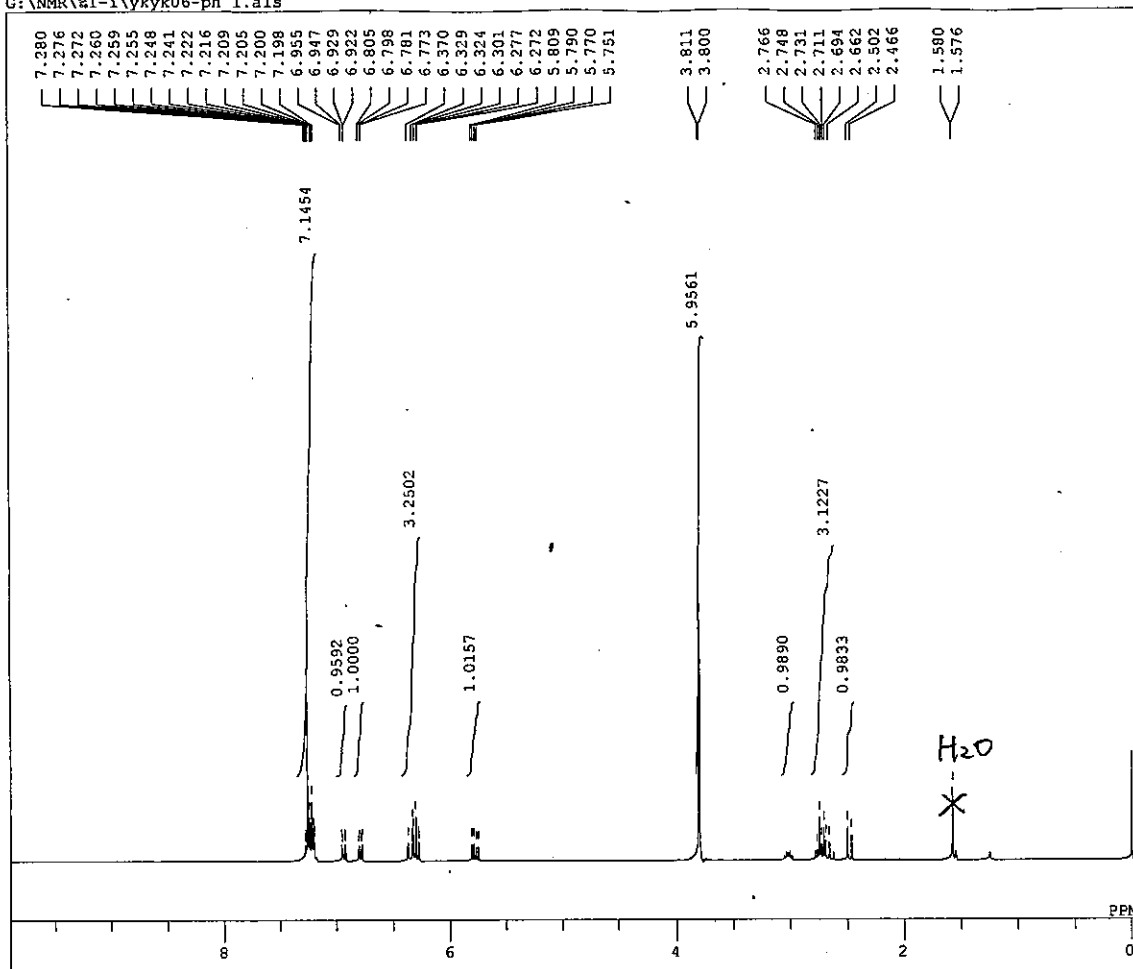


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 COMNT ykyk05-f6-13c
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 OBNUC 13C
 EXMOD single pulse dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 54
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

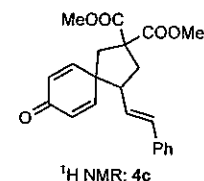


ykyk06-ph

G:\NMR\zf-i\ykyk06-ph 1.als

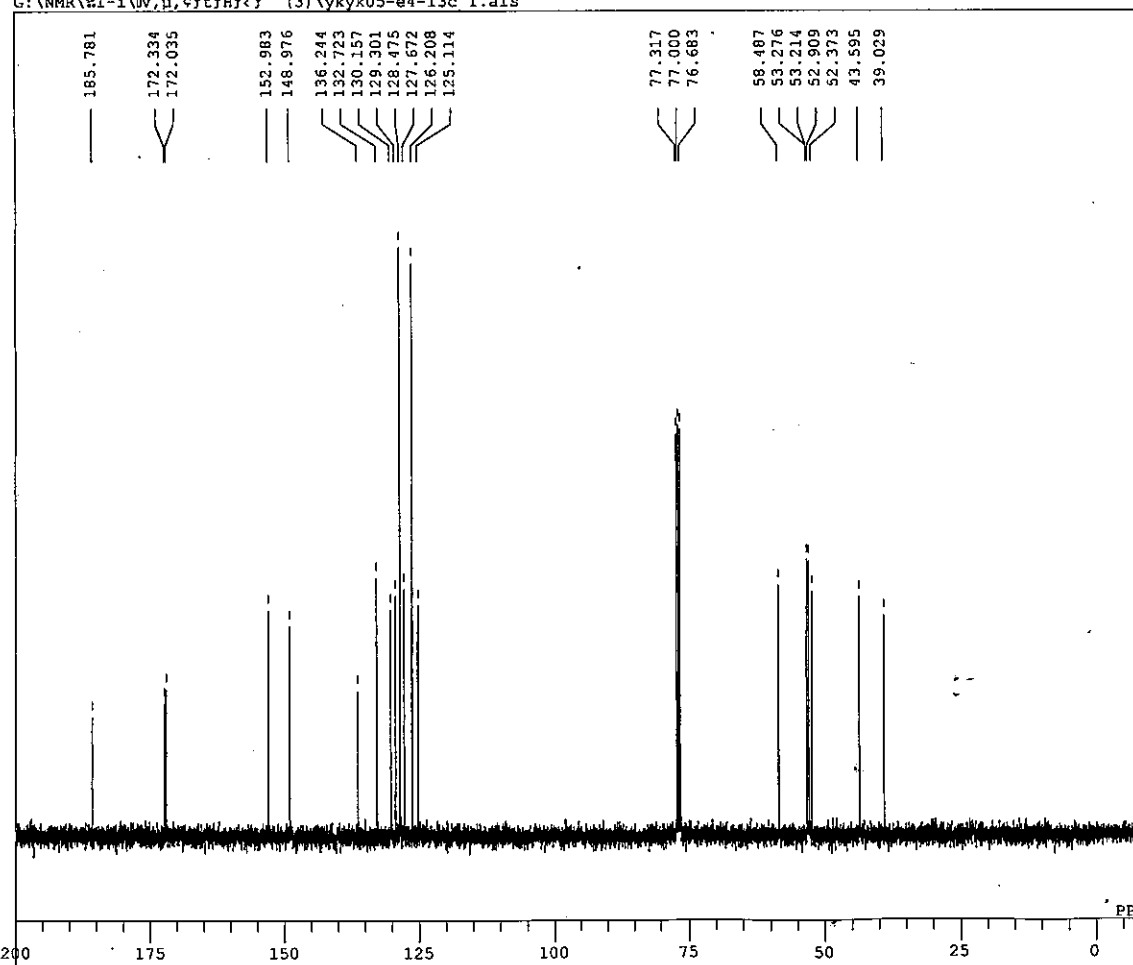


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 EXMOD single_pulse.exp
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 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 22.3 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 18

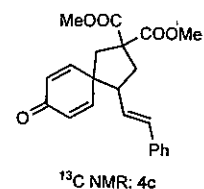


ykyk05-e4-13c

G:\NMR\zf-i\W,u,ftfHf (3)\ykyk05-e4-13c 1.als

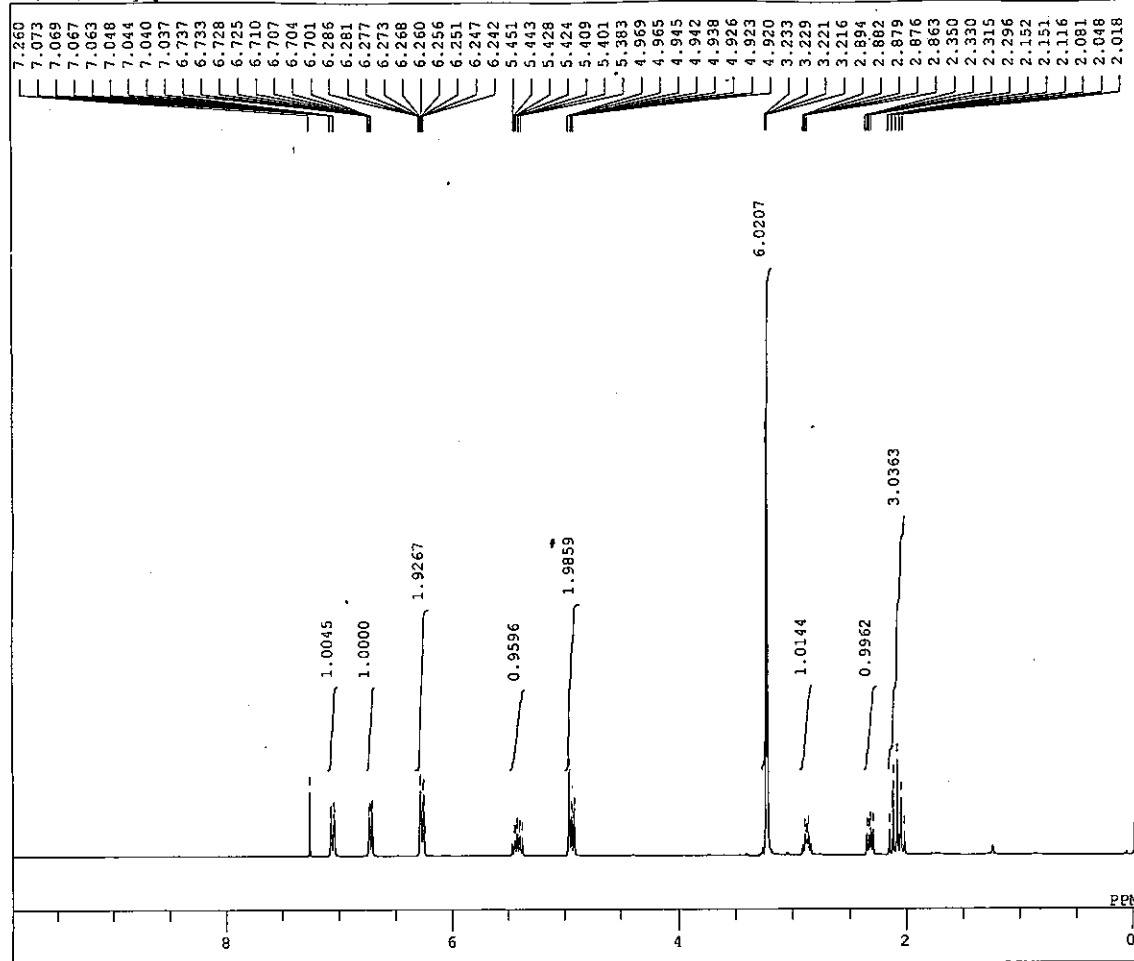


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 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 55
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

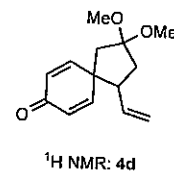


ykyk05-339-1h

G:\NMR\4f-1\ykyk05-339-1h 1.als

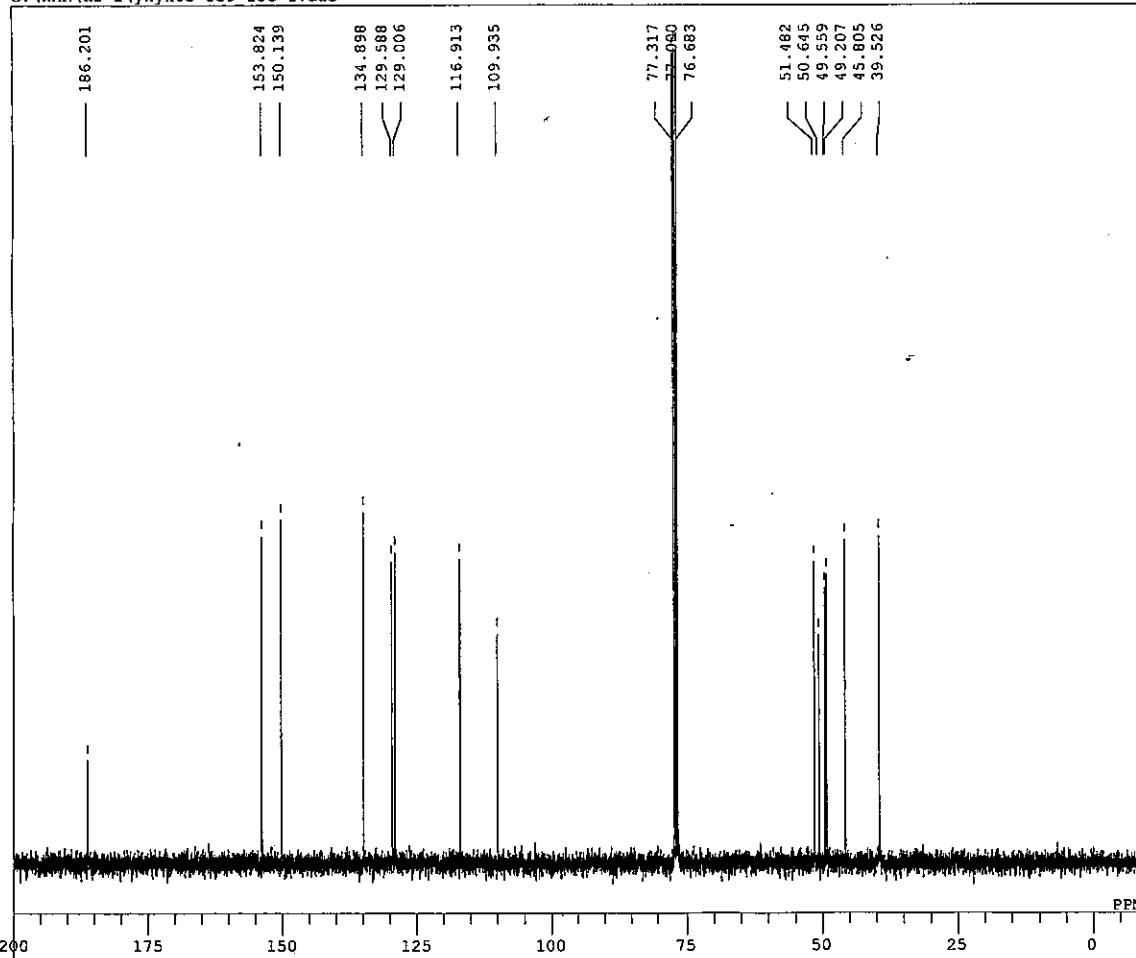


DFILE ykyk05-339-1h 1.als
COMNT ykyk05-339-1h
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EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 20.1 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 11

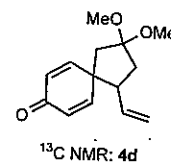


ykyk05-339-13c

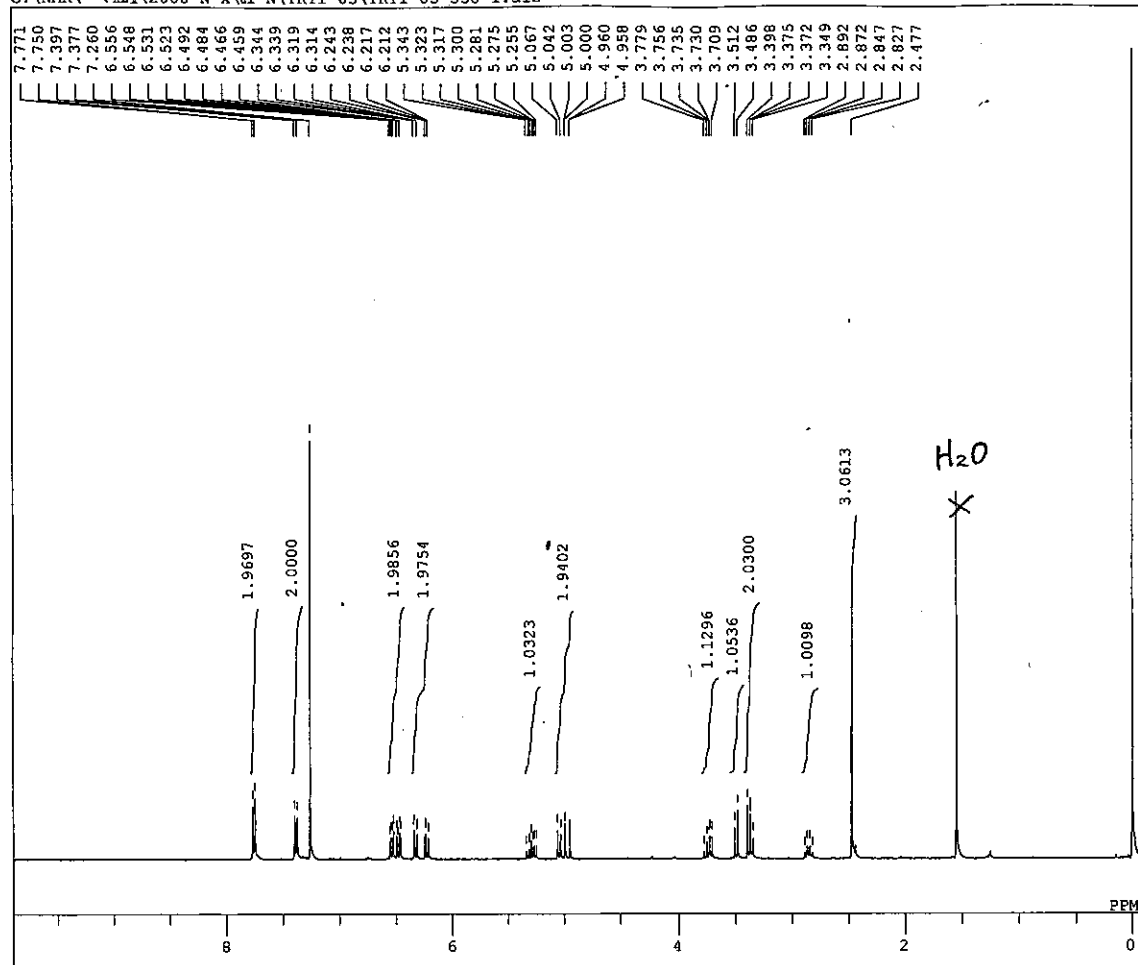
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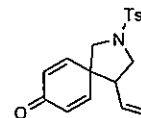
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EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 142
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 13C
CTEMP 21.4 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23



G:\NMR\12<2008"N"x\fi-N\YKYI-05\YKYI-05-358 1.als

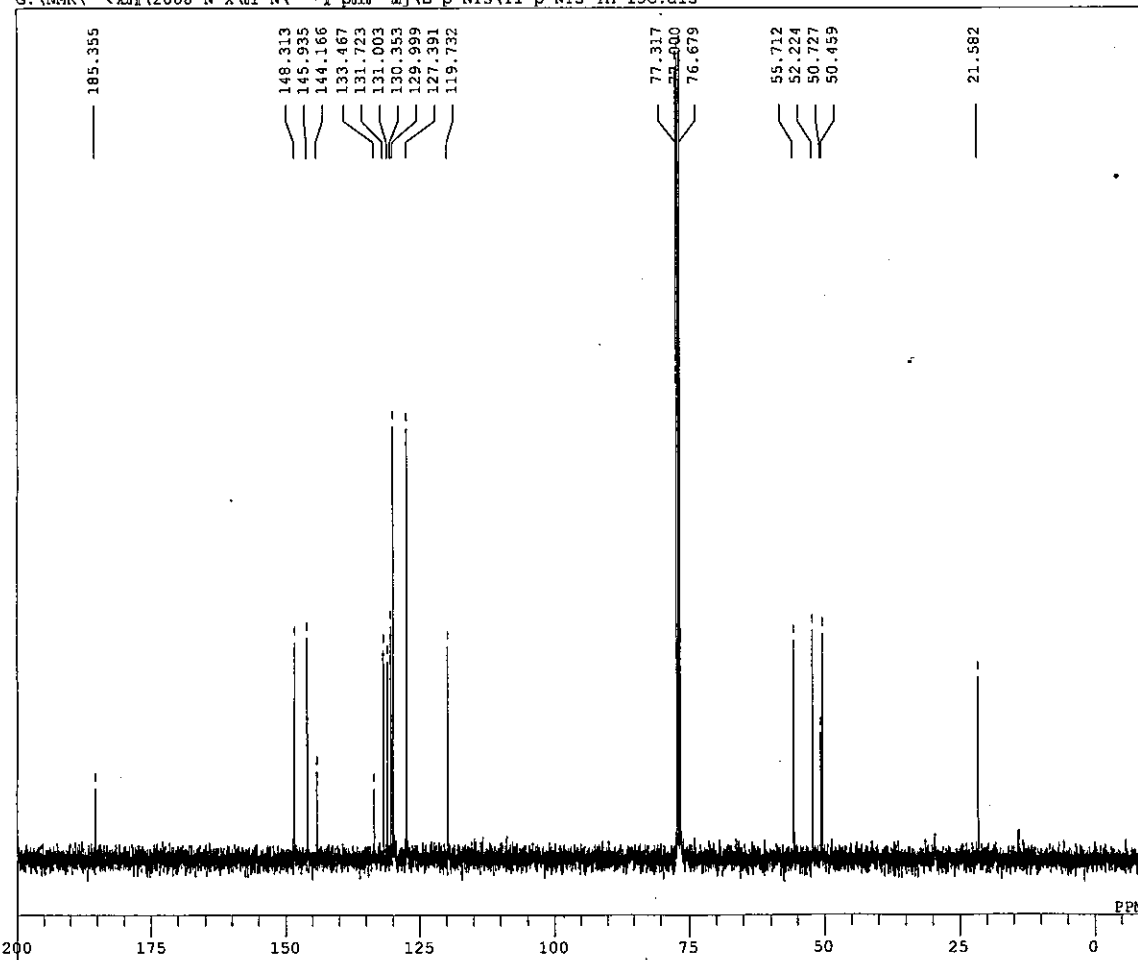


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 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 9
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 23.3 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 27

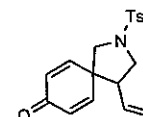
¹H NMR: 4e

YK-P-NTS-TM-13C

G:\NMR\12<2008"N"x\fi-N\YK-P-NTS-TM-13C.als

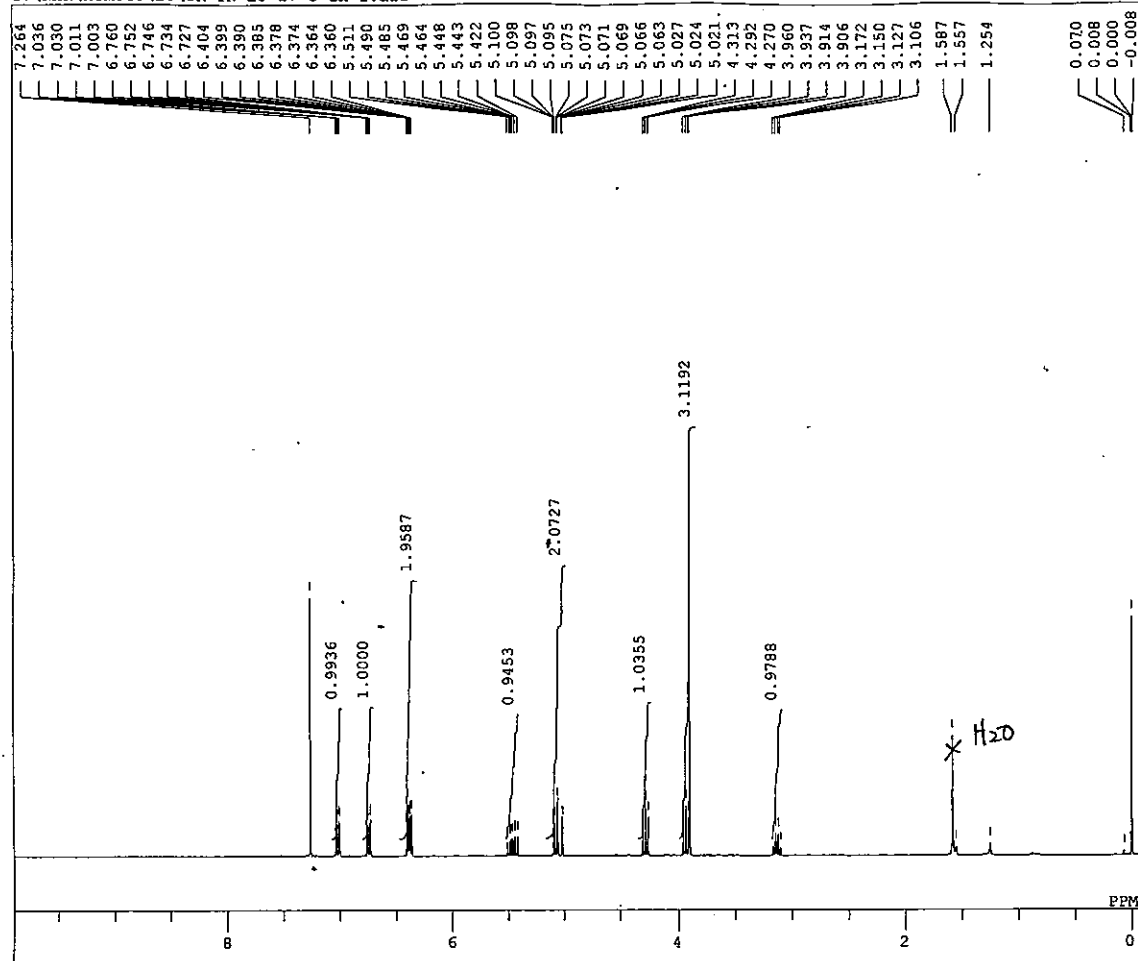


DFILE YI-p-NTS-TM-13C.als
 COMNT YK-P-NTS-TM-13C
 DATIM
 OBNUC 13C
 EXMOD SINGL-BCM
 OBFRQ 100.40 MHz
 OBSET 130.00 KHz
 OBFIN 5500.00 Hz
 POINT 65536
 FREQU 27100.27 Hz
 SCANS 145
 ACQTM 2.4183 sec
 PD 2.0000 sec
 PW1 4.90 usec
 IRNUC 1H
 CTEMP 20.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

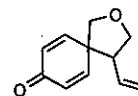
¹³C NMR: 4e

YK-TN-28-17-3-1H

G:\NMR\nemoto\28\YK-TN-28-17-3-1H 1.als

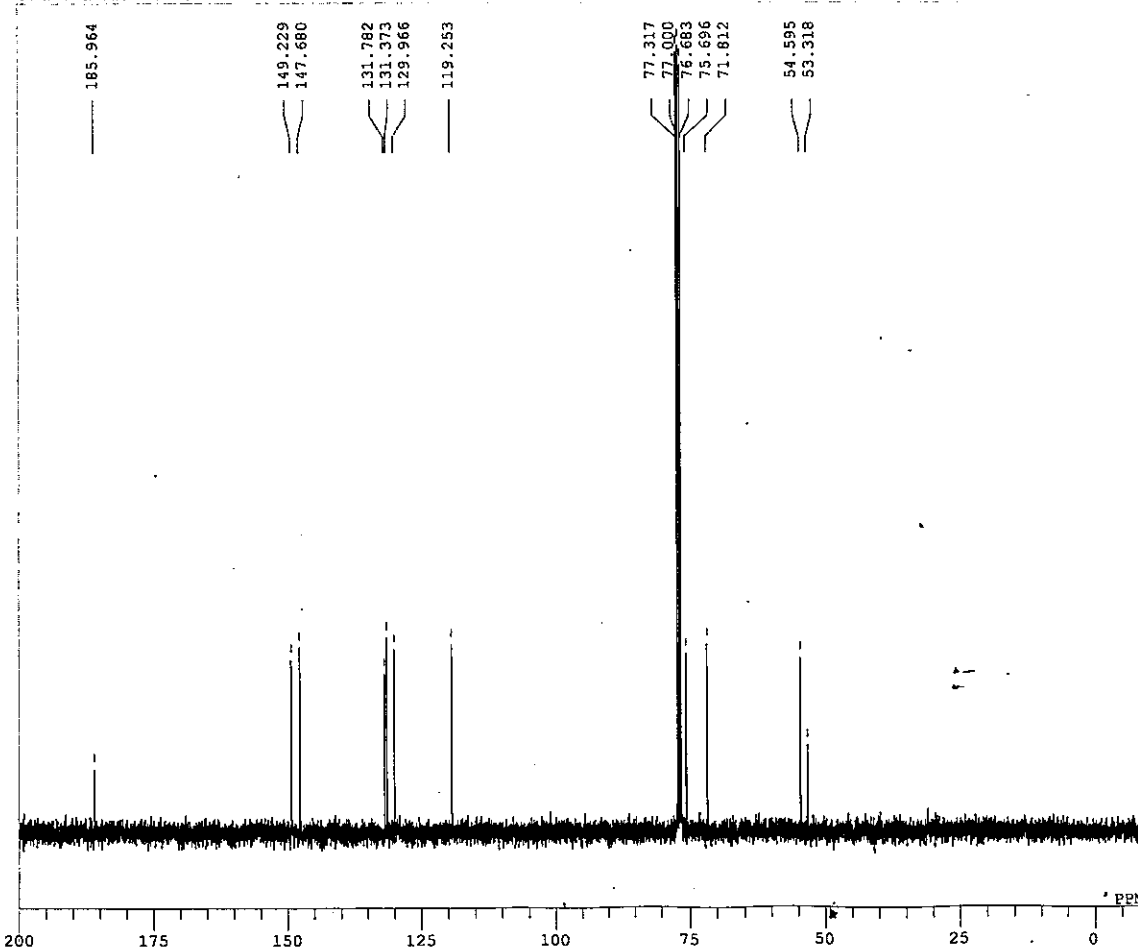


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 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 22.5 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 18

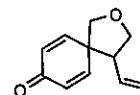
¹H-NMR: 4f

YK-TN-26-67-13C

G:\NMR\nemoto\26\YK-TN-26-67-13C 1.als

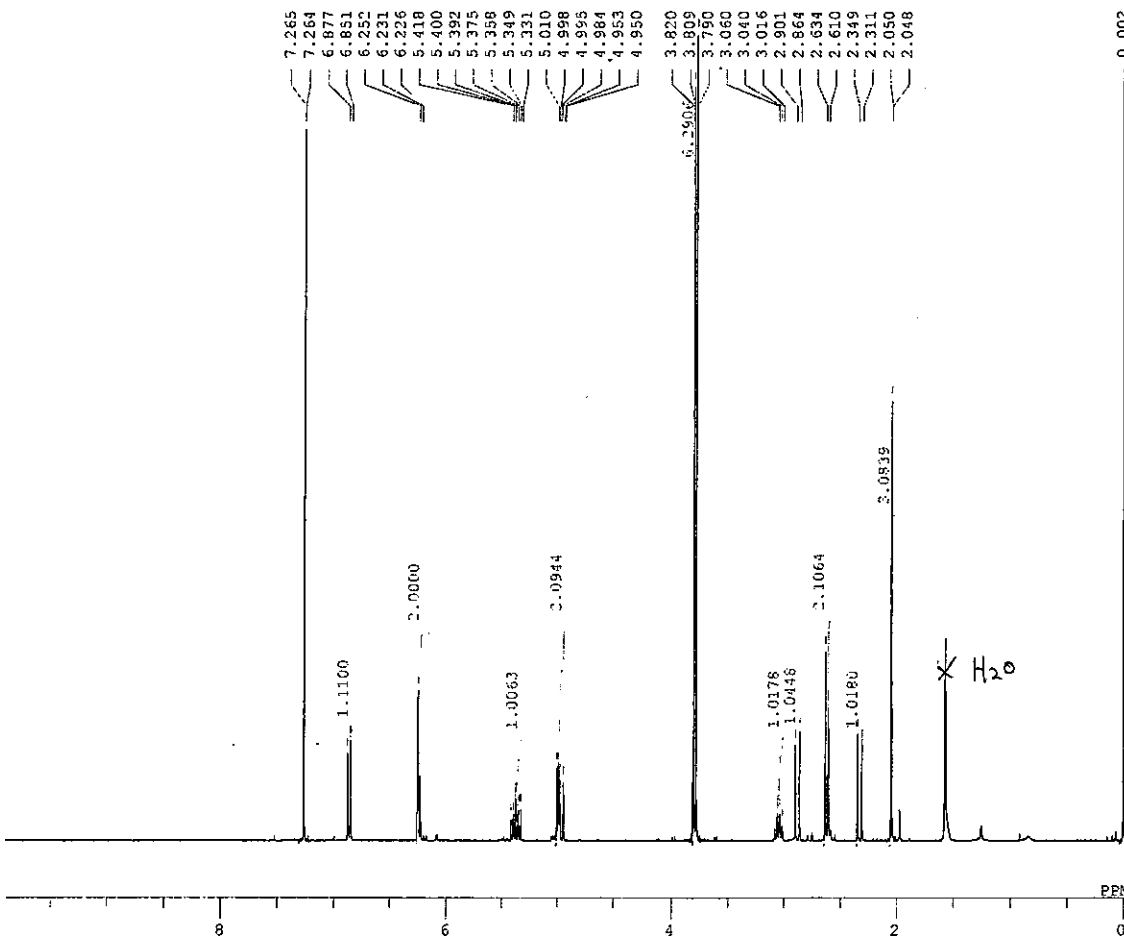


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 COMNT YK-TN-26-67-13C
 DATIM 14-JUN-2010 19:15:16
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 112
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 23.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

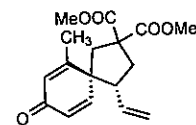
¹³C NMR: 4f

YK-TN-100623-o-Me-pro-1H

NAME: YK-TN-100623-o-Me-pro-1H_1.sis



DFILE YK-TN-100623-o-Me-pro-1H_1.
COMNT YK-TN-100623-o-Me-pro-1H
DATIM 24-JUN-2010 02:23:50
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 7
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 21.8 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 19

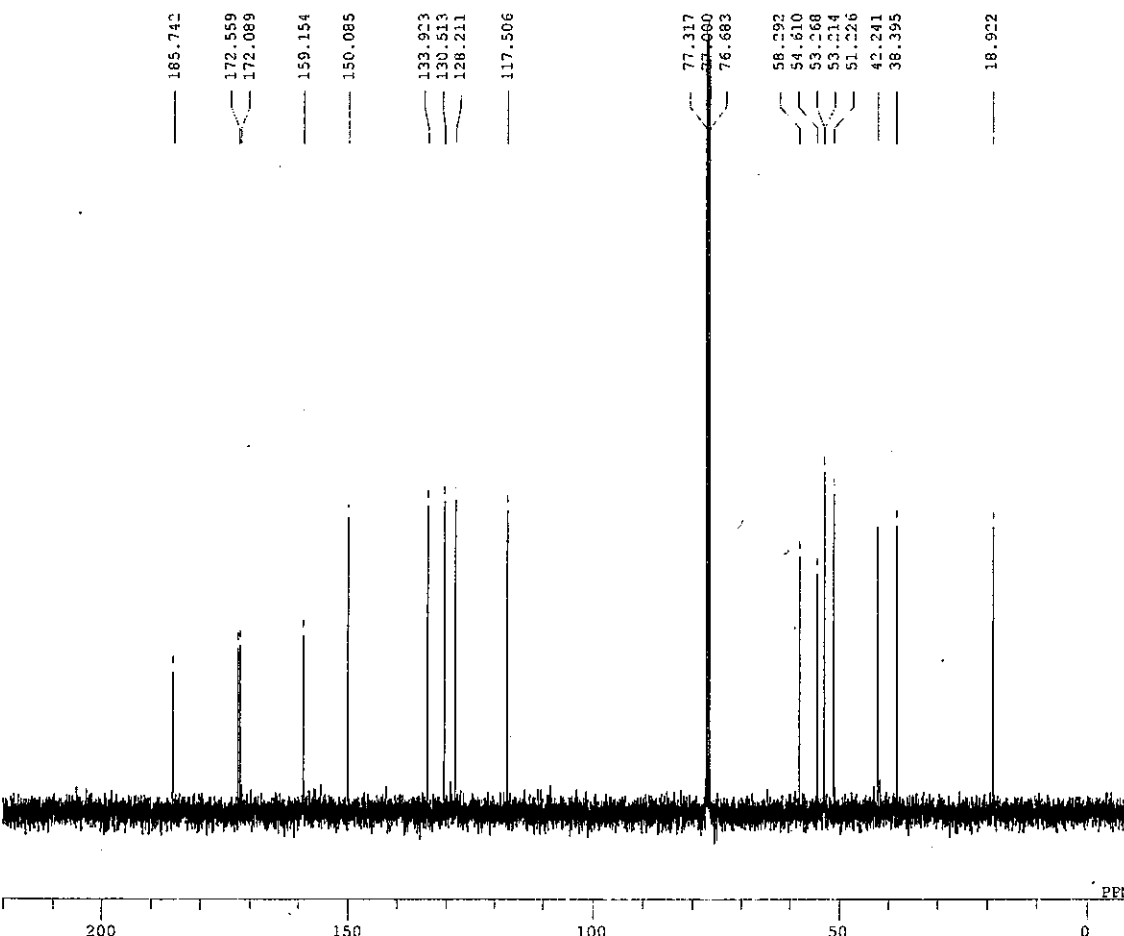


¹H-NMR: 4g

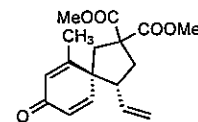
Inseparable
diastereo-mixture

YK-TN-100623-o-Me-pro-13C

NAME: YK-TN-100623-o-Me-pro-13C_1.sis



DFILE YK-TN-100623-o-Me-pro-13C_1
COMNT YK-TN-100623-o-Me-pro-13C
DATIM 24-JUN-2010 02:31:29
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 65
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 22.9 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

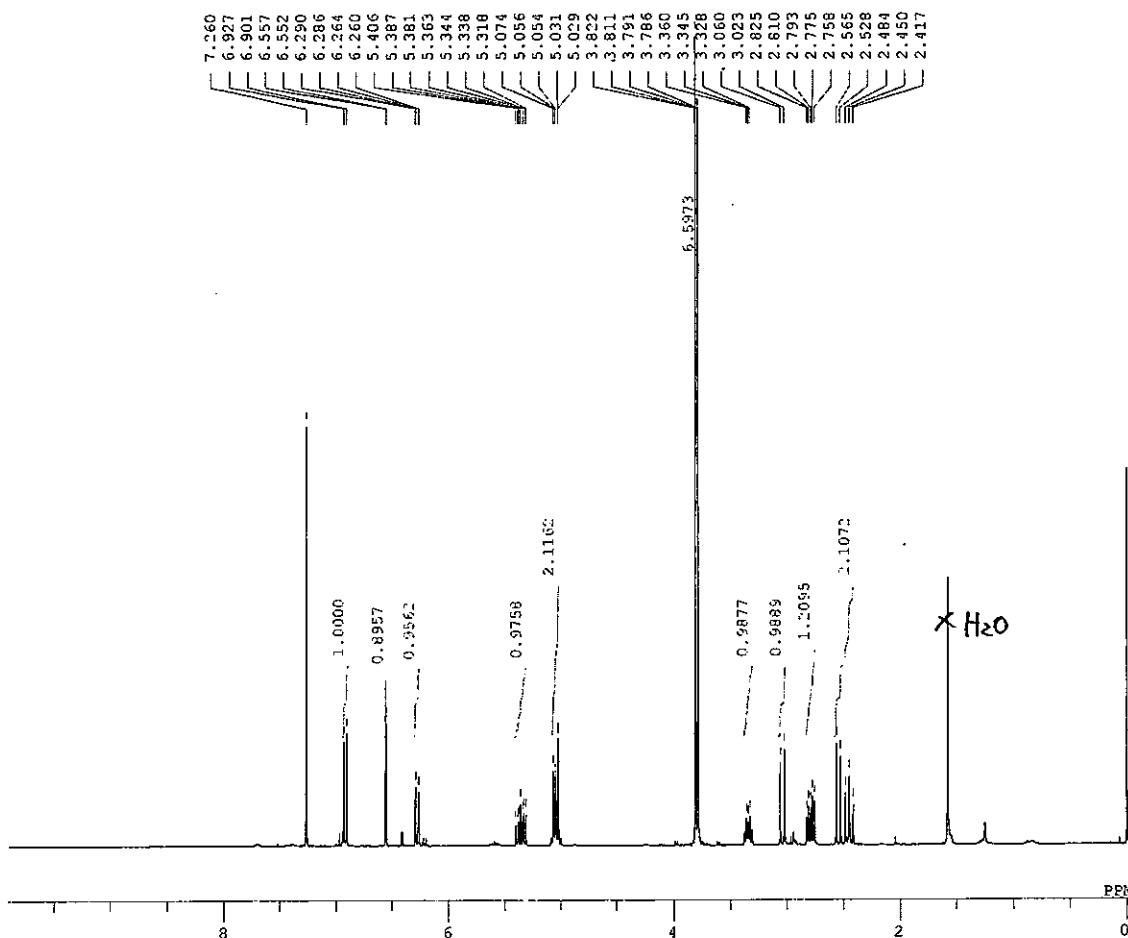


¹³C NMR: 4g

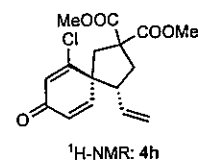
page 5-38

YK-TN-100624-Cl-1H

G:\NMR\demote\27\YK-TN-100624-Cl-1H_1.als



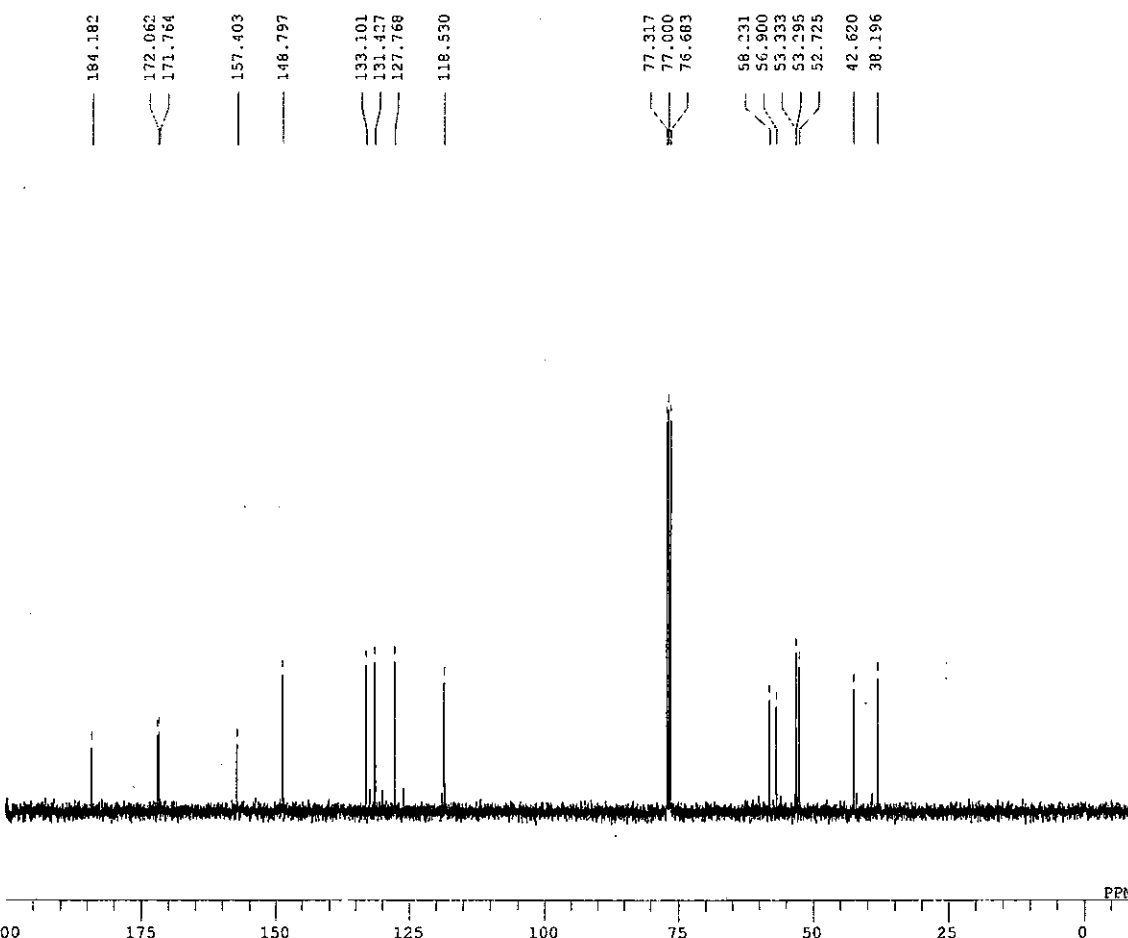
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OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 9
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 21.1 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 18



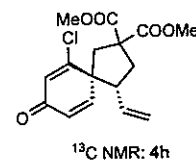
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YK-TN-100624-Cl-13C

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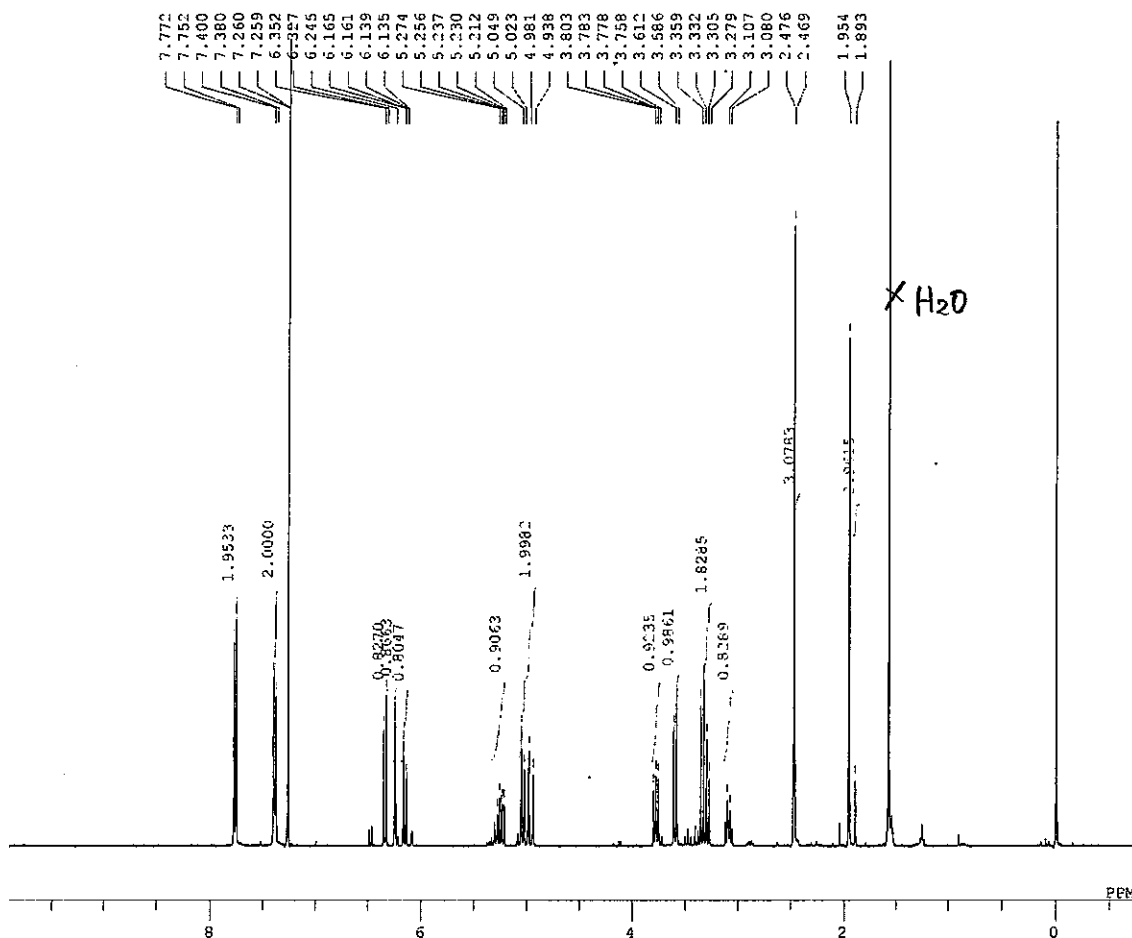


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DATIM 24-JUN-2010 22:43:57
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 48
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 13C
CTEMP 22.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

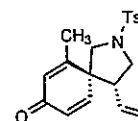


YK-TN-27-100627-1H

3:ANMRAnemoto\27\YK-TN-27-100627-1H_1.als



DFILE YK-TN-27-100627-1H_1.als
COMNT YK-TN-27-100627-1H
DATIM 28-JUN-2010 01:47:40
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 22.9 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 19

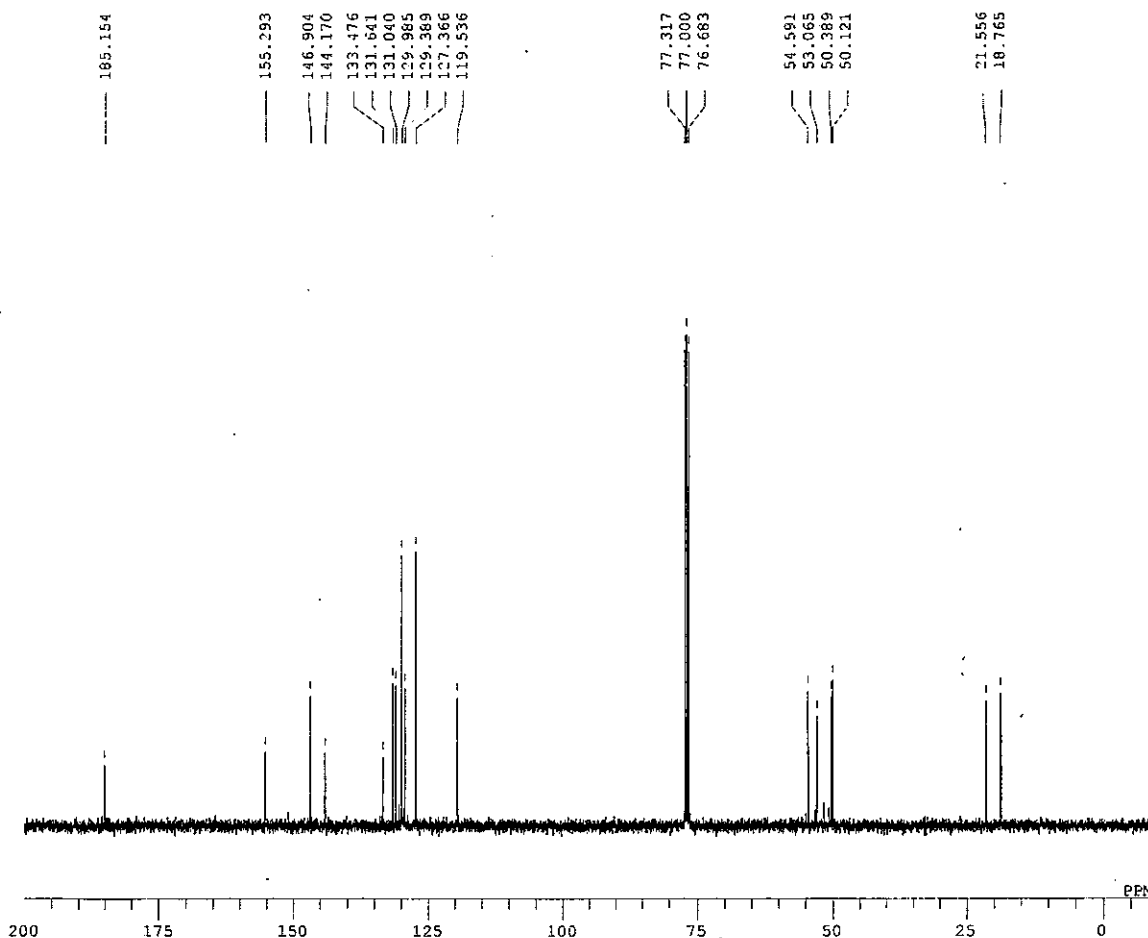


¹H-NMR: 4i

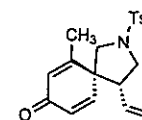
Inseparable
diastereo-mixture

YK-TN-27-100627-13C

3:ANMRAnemoto\27\YK-TN-27-100627-13C_1.als



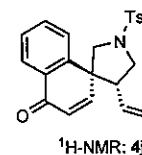
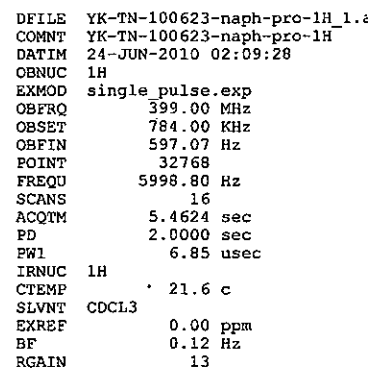
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COMNT YK-TN-27-100627-13C
DATIM 28-JUN-2010 01:43:03
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 139
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 13C
CTEMP 24.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24



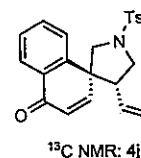
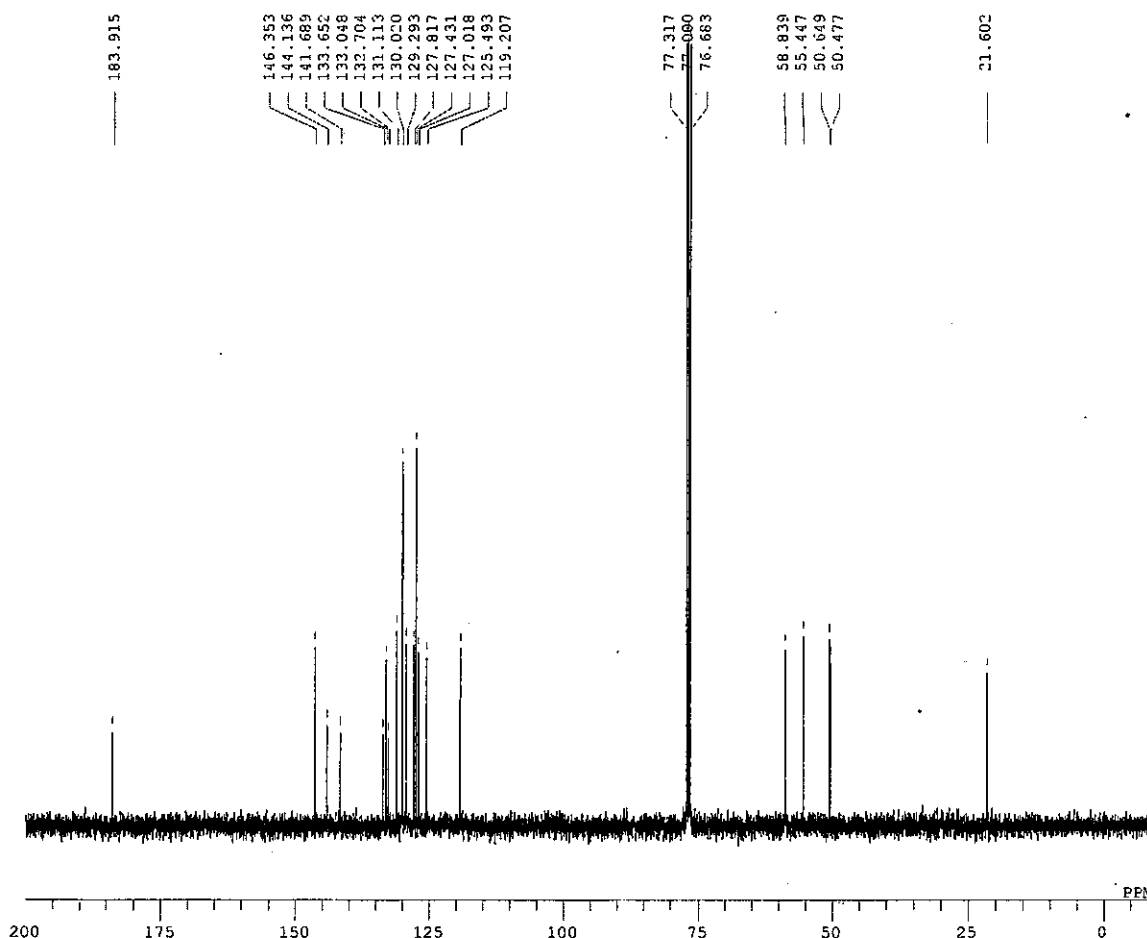
¹³C NMR: 4i

page 5-40

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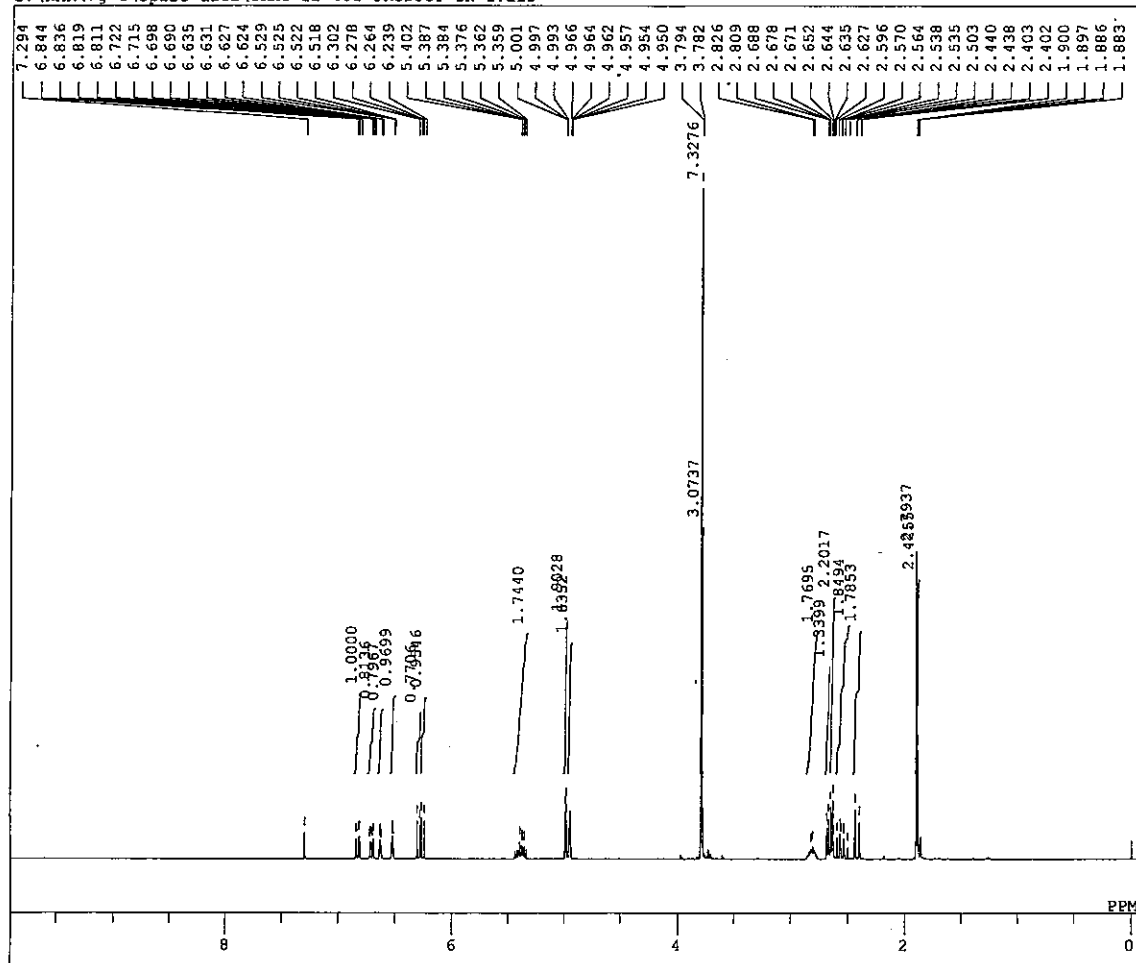


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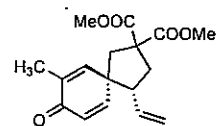


YKMY-12-481-PRODUCT-1H

G:\NMR\q" c\spiro data\YKMY-12-481-PRODUCT-1H 1.als



DFILE YKMY-12-481-PRODUCT-1H 1.als
COMNT YKMY-12-481-PRODUCT-1H
DATIM 20-JUL-2010 18:41:09
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 22.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9

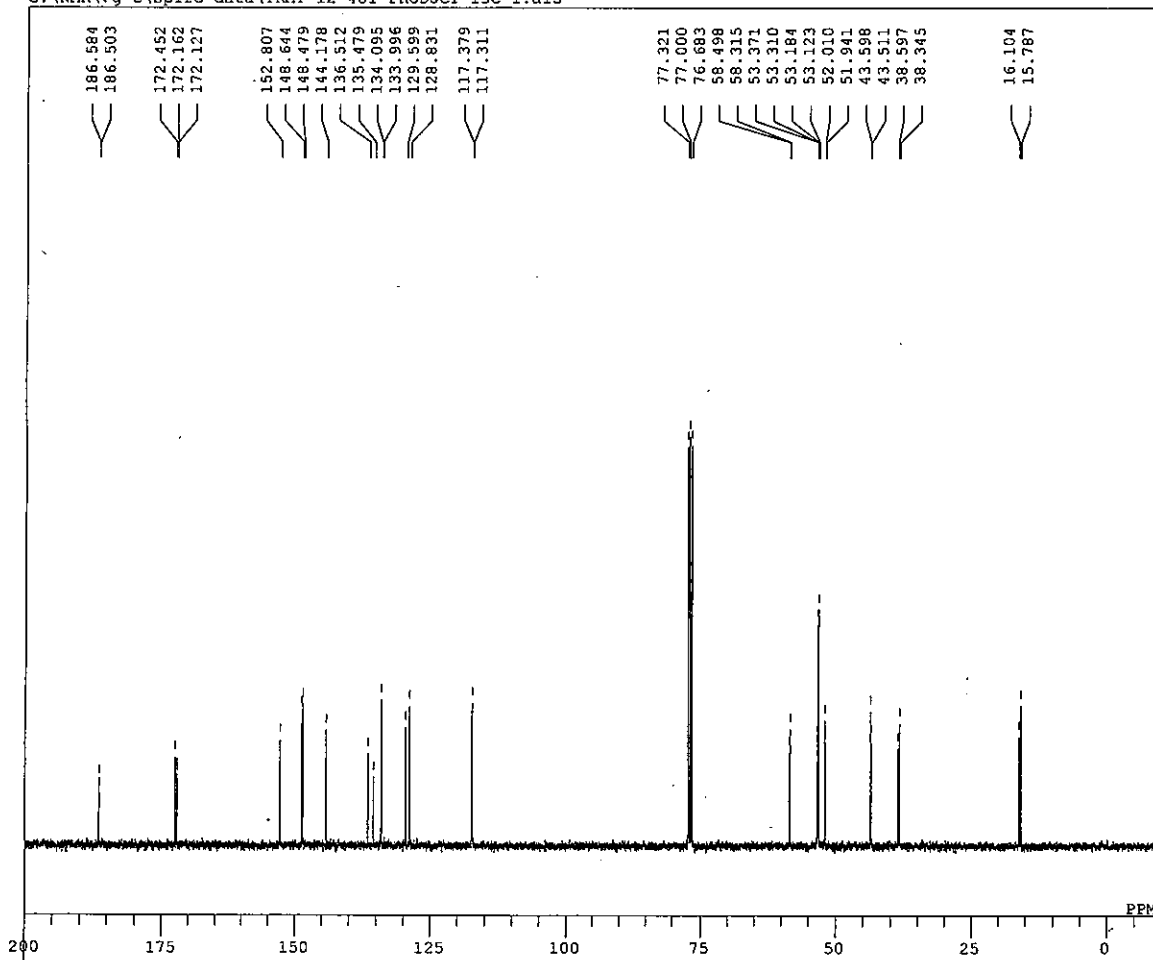


¹H NMR: 4k

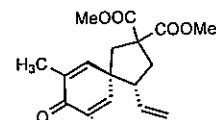
Inseparable
diastereo-mixture

YKMY-12-481-PRODUCT-13C

G:\NMR\q" c\spiro data\YKMY-12-481-PRODUCT-13C 1.als

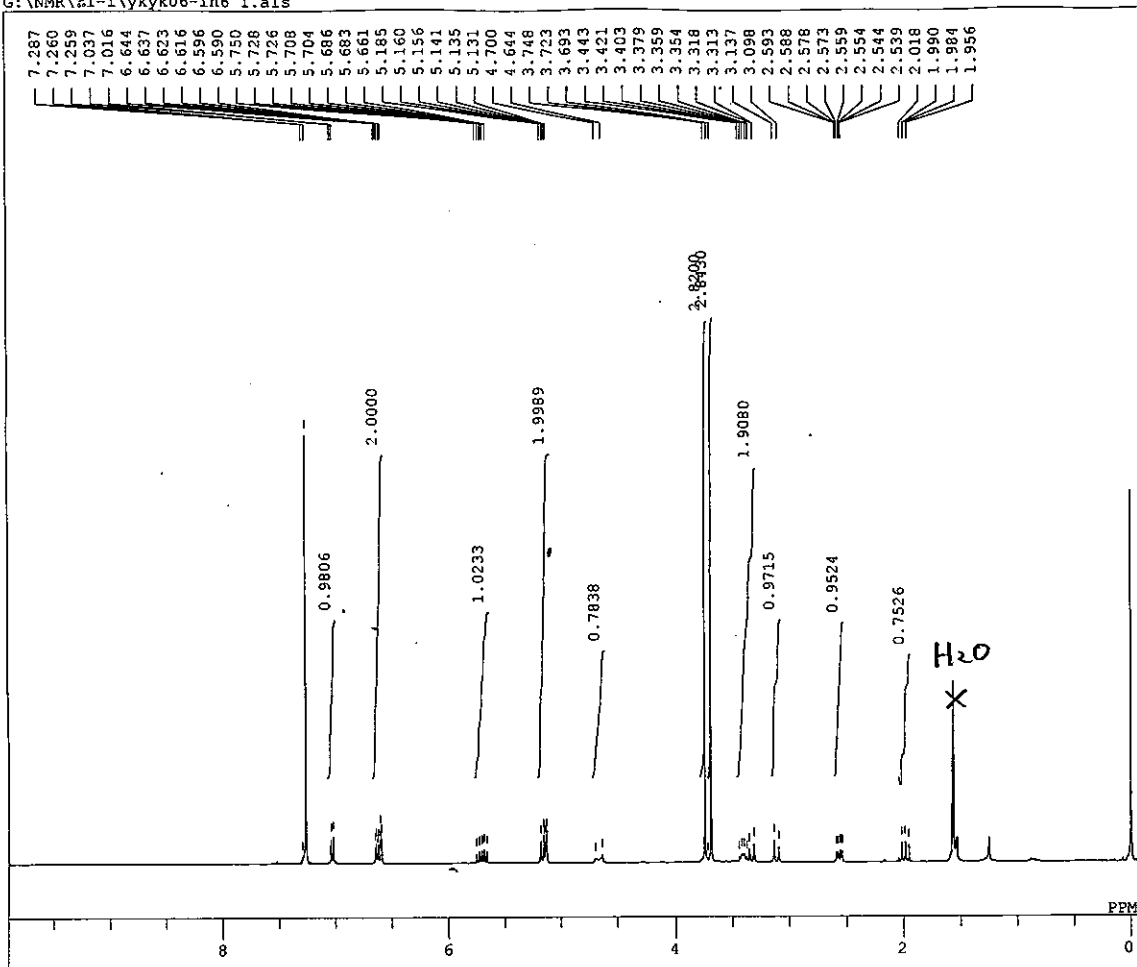


DFILE YKMY-12-481-PRODUCT-13C 1.a
COMNT YKMY-12-481-PRODUCT-13C
DATIM 20-JUL-2010 18:56:27
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 184
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 23.2 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23

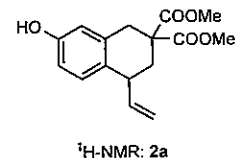


¹³C NMR: 4k

G:\NMR\yf-1\ykyk06-in6 1.als

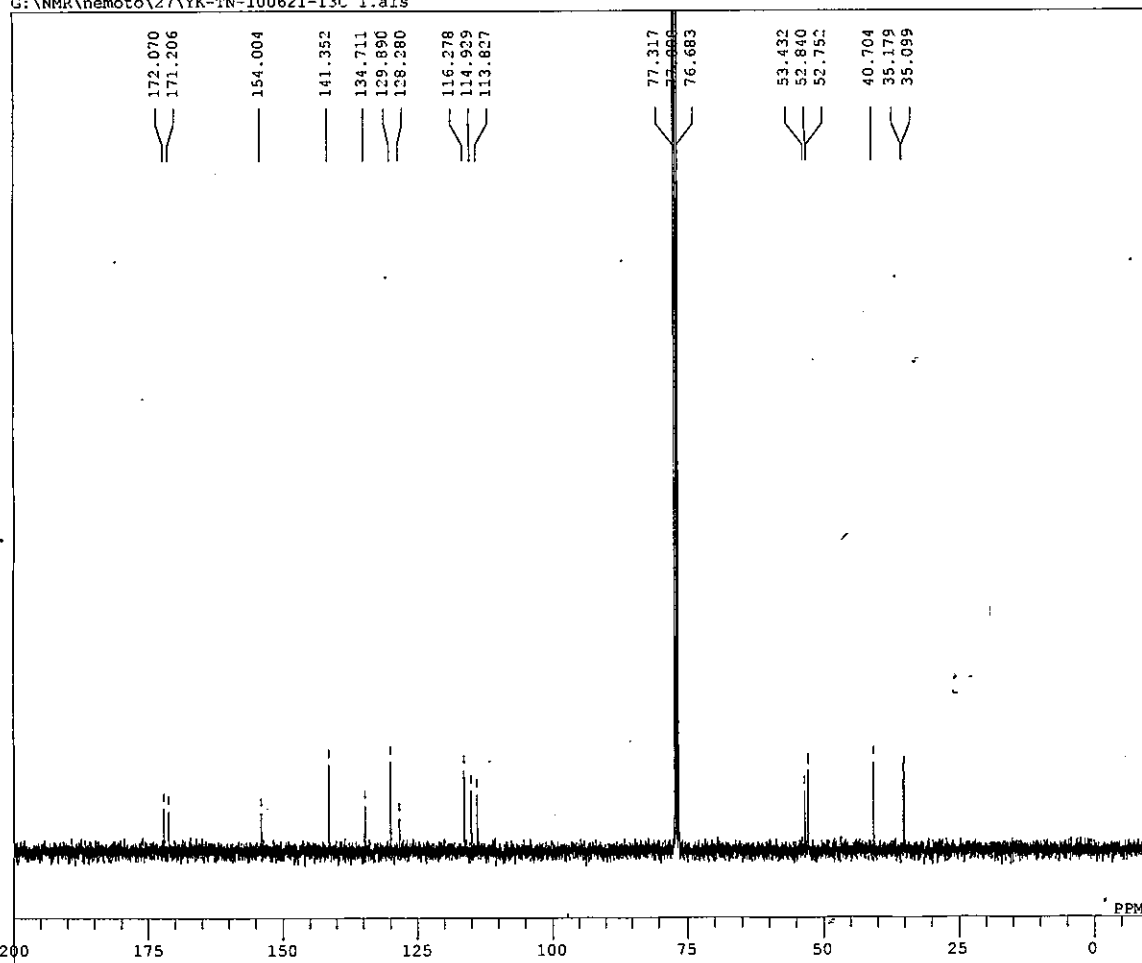


DFILE ykyk06-in6 1.als
 COMNT ykyk06-in6
 DATIM 1-OCT-2010 19:25:47
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 22.1 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 21

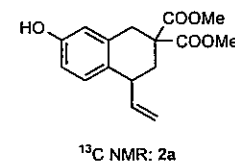


YK-TN-100621-13C

G:\NMR\nemoto\27\YK-TN-100621-13C 1.als

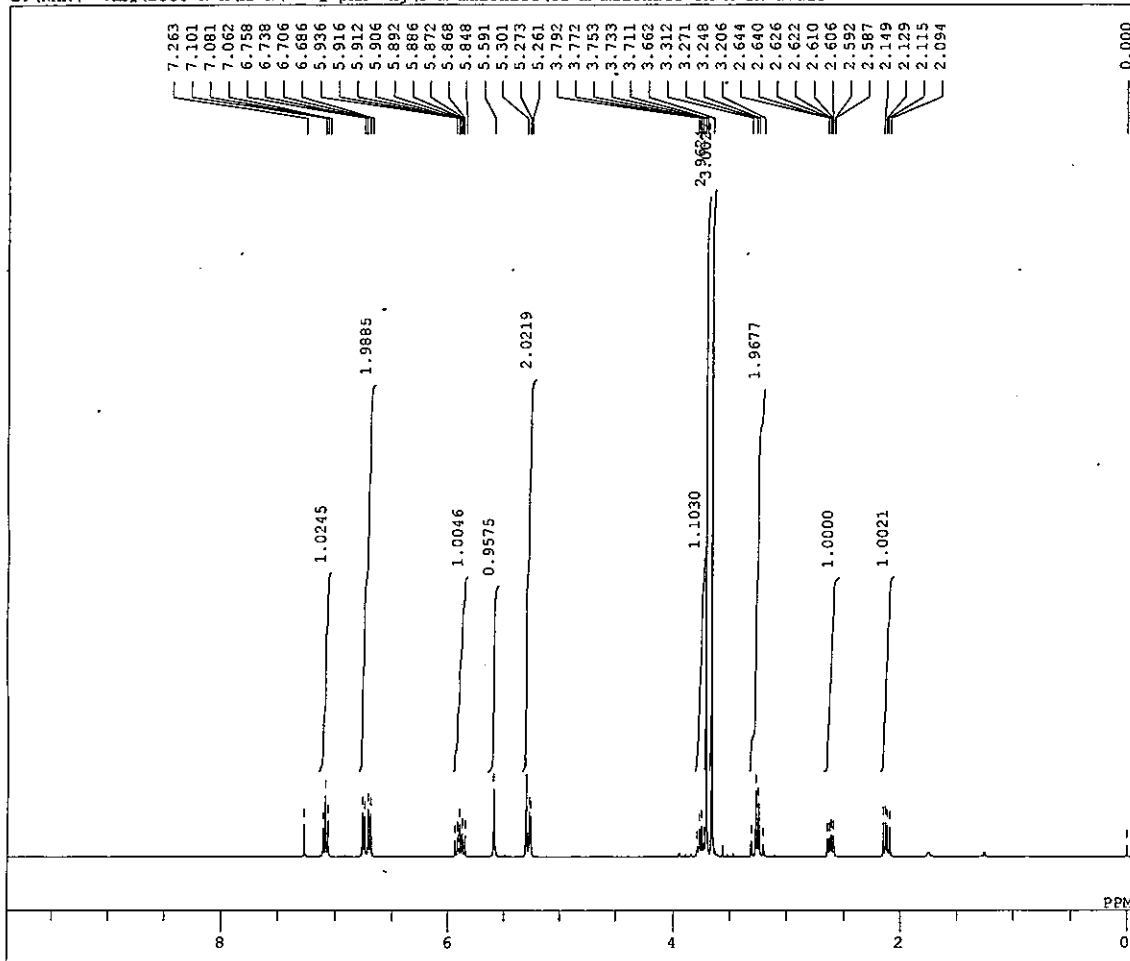


DFILE YK-TN-100621-13C 1.als
 COMNT YK-TN-100621-13C
 DATIM 21-JUN-2010 19:43:04
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 280
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 24.9 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

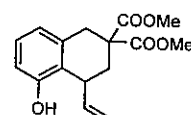


YKYI-m-mal-TM-A-1H

G:\NMR\12\2008\N\X\I-N\ - *f-pdi0-Uj\D m-malonate\YI-m-malonate-TM-A-1H 1.als



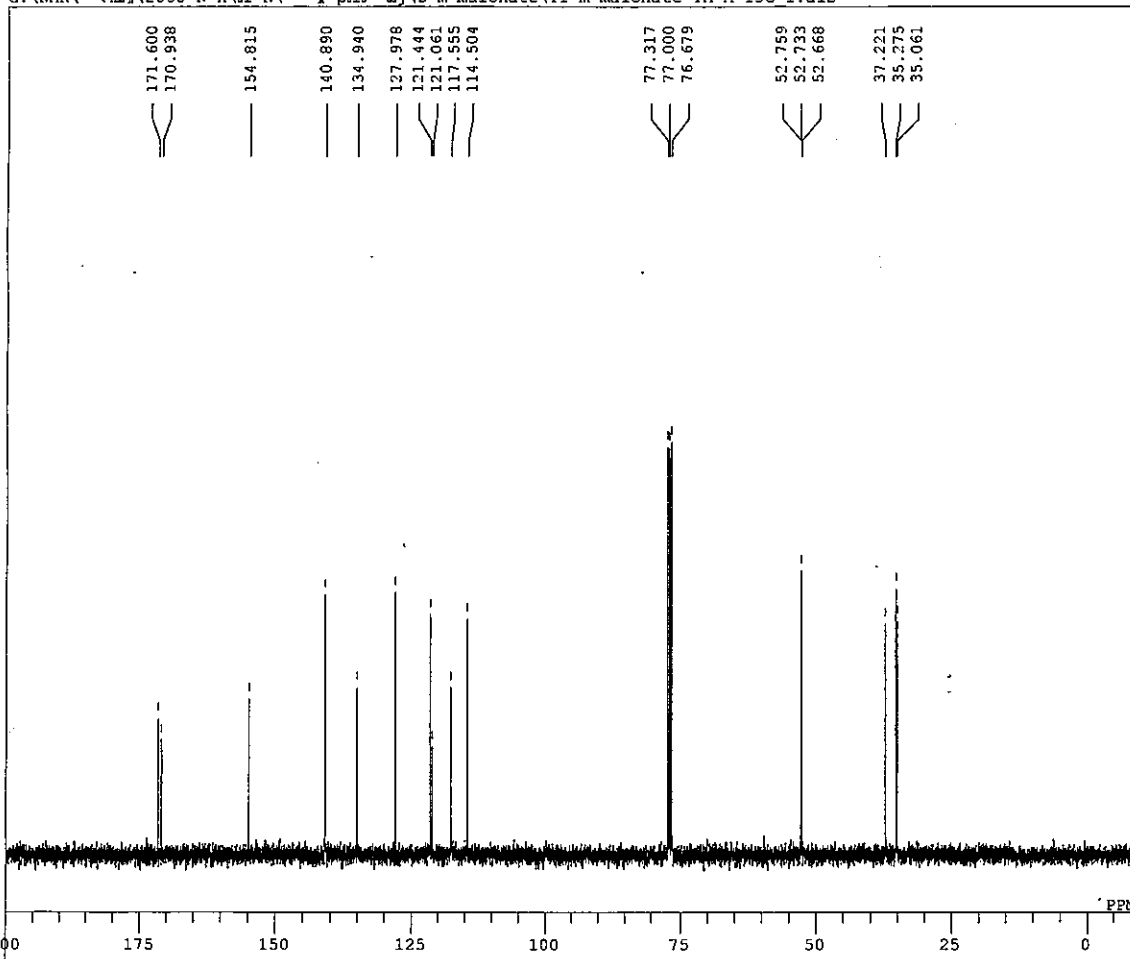
DFILE YI-m-malonate-TM-A-1H_1.als
COMNT KYKI-m-mal-TM-A-1H
DATIM 29-NOV-2008 15:37:18
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 18.5 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



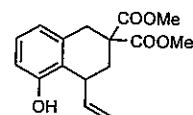
¹H-NMR: 2b

YKYI-m-mal-TM-A-13C

G:\NMR\12\2008\N\X\I-N\ - *f-pdi0-Uj\D m-malonate\YI-m-malonate-TM-A-13C 1.als



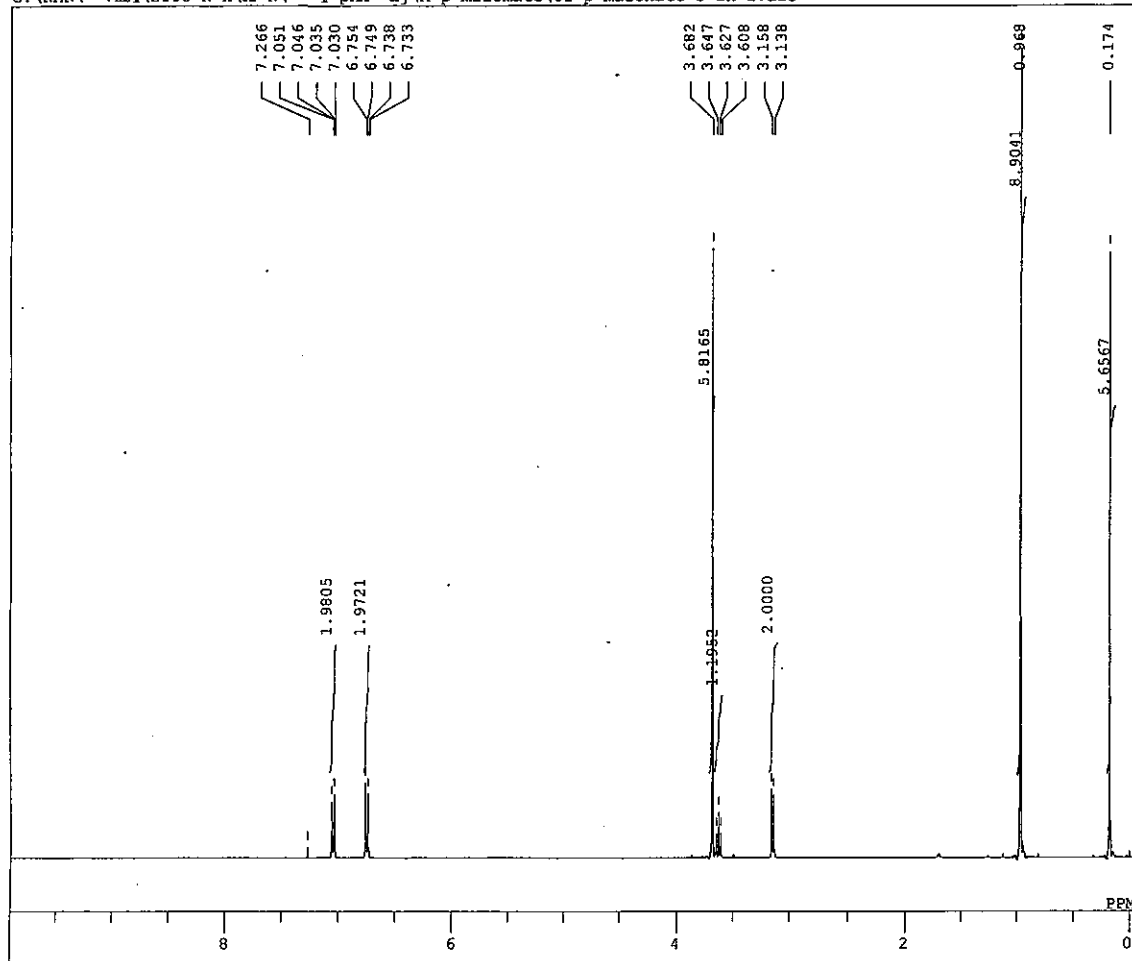
DFILE YI-m-malonate-TM-A-13C_1.als
COMNT KYKI-m-mal-TM-A-13C
DATIM 29-NOV-2008 15:41:46
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 32
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 19.9 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



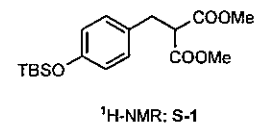
¹³C NMR: 2b

YKYI-p-EST-3

G:\NMR\12< 2008"N"x\01-N\` •q-pilil~0j\A p-malomite\YI-p-malonnate-3-1H 1.als

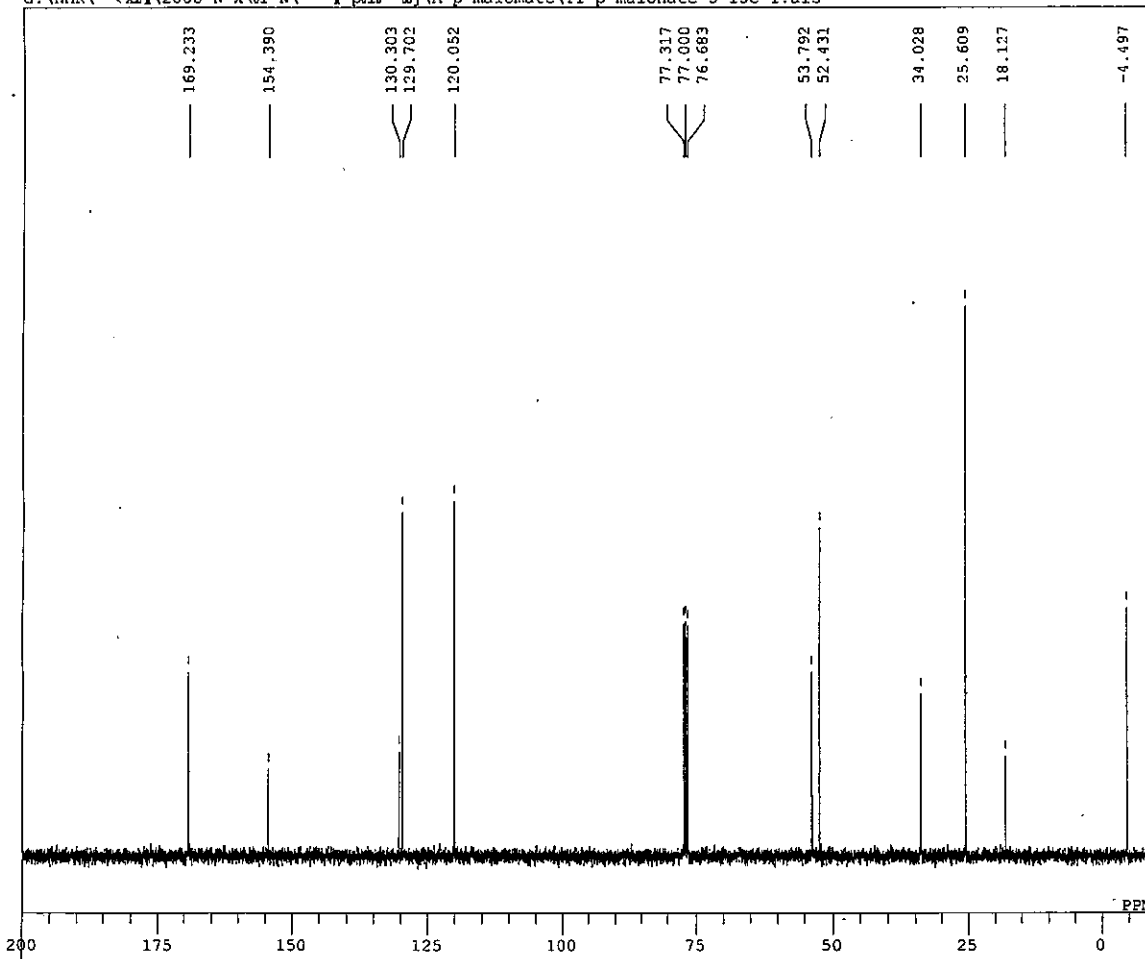


DFILE YI-p-malonnate-3-1H_1.als
COMNT YKYI-p-EST-3
DATIM 15-NOV-2008 17:34:11
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
FWI 6.70 usec
IRNUC 1H
CTEMP 21.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9

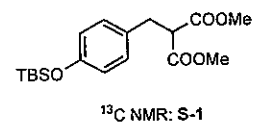


YKYI-p-EST-3-13C

G:\NMR\12< 2008"N"x\01-N\` •q-pilil~0j\A p-malomite\YI-p-malonnate-3-13C 1.als

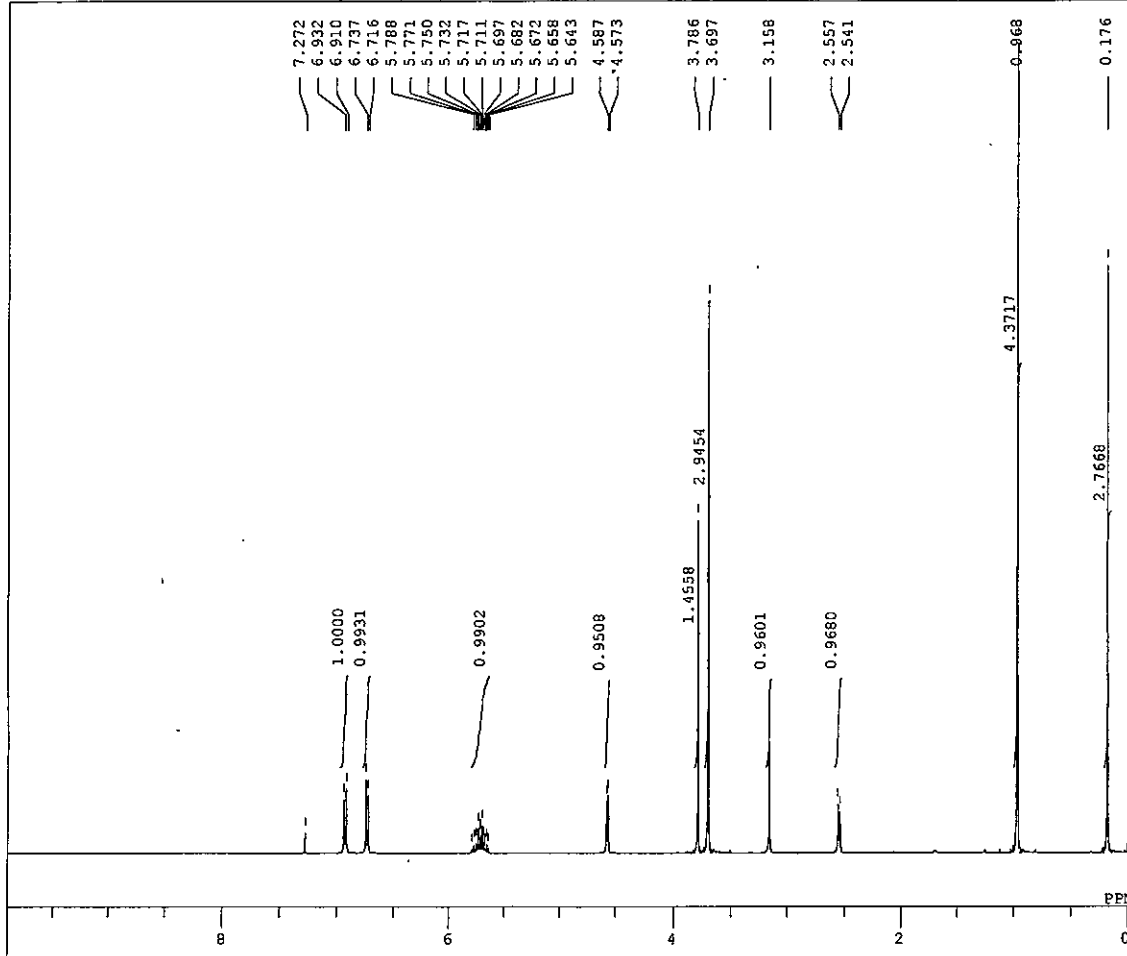


DFILE YI-p-malonnate-3-13C_1.als
COMNT YKYI-p-EST-3-13C
DATIM 15-NOV-2008 17:38:16
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 18
ACQTM 2.6018 sec
PD 1.5000 sec
FWI 3.50 usec
IRNUC 1H
CTEMP 22.5 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26

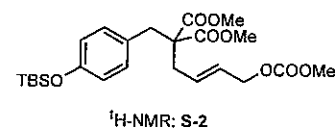


YKYI-p-mal-2

G:\NMR\12\2008\N\X\01-N\ -p-mal-01\A p-malomite\YI-p-malonate-2-1H 1.als

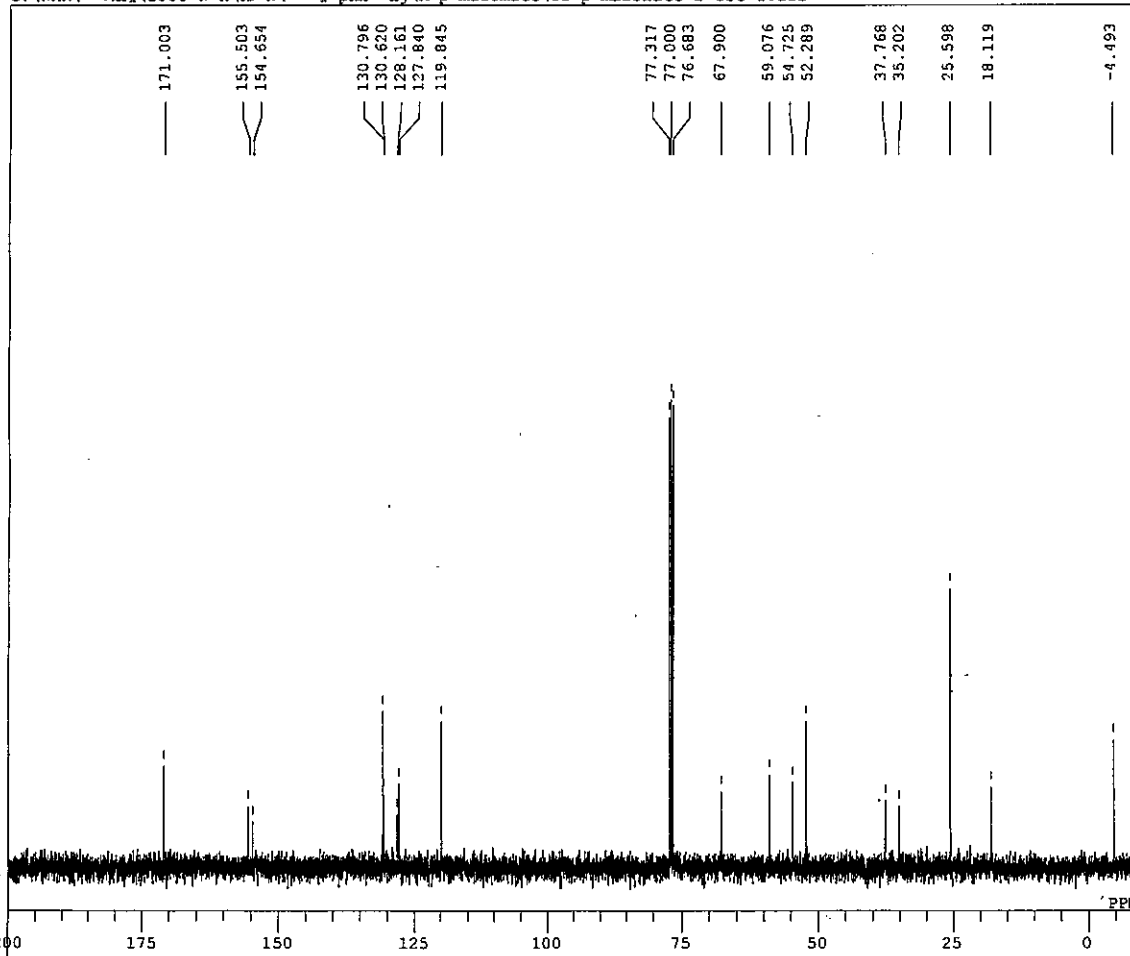


DFILE YI-p-malonate-2-1H_1.als
COMNT YKYI-p-mal-2
DATIM 20-NOV-2008 19:15:38
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 20.9 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11

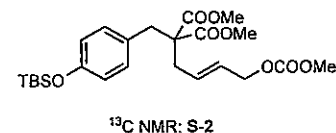


YKYI-p-mal-2-13C

G:\NMR\12\2008\N\X\01-N\ -p-mal-01\A p-malomite\YI-p-malonate-2-13C 1.als

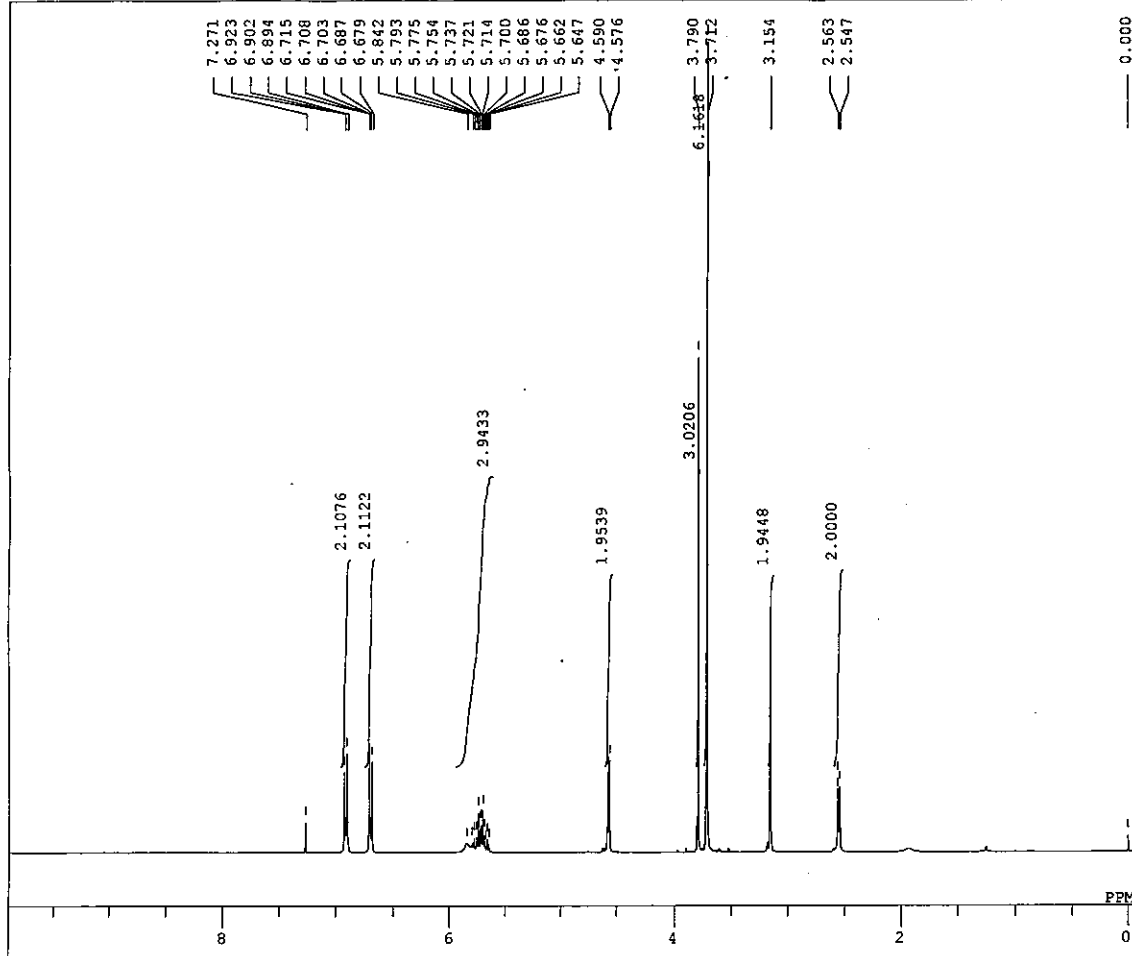


DFILE YI-p-malonate-2-13C_1.als
COMNT YKYI-p-mal-2-13C
DATIM 20-NOV-2008 19:26:21
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 102
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 22.2 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26

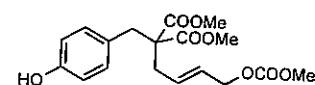


YKYI-p-EST-1-1H

G:\NMR\12<2008"N"x\11-N\~ *1-pli11-11j\A p-malomite\VI-p-malonate-1-1H 1.als



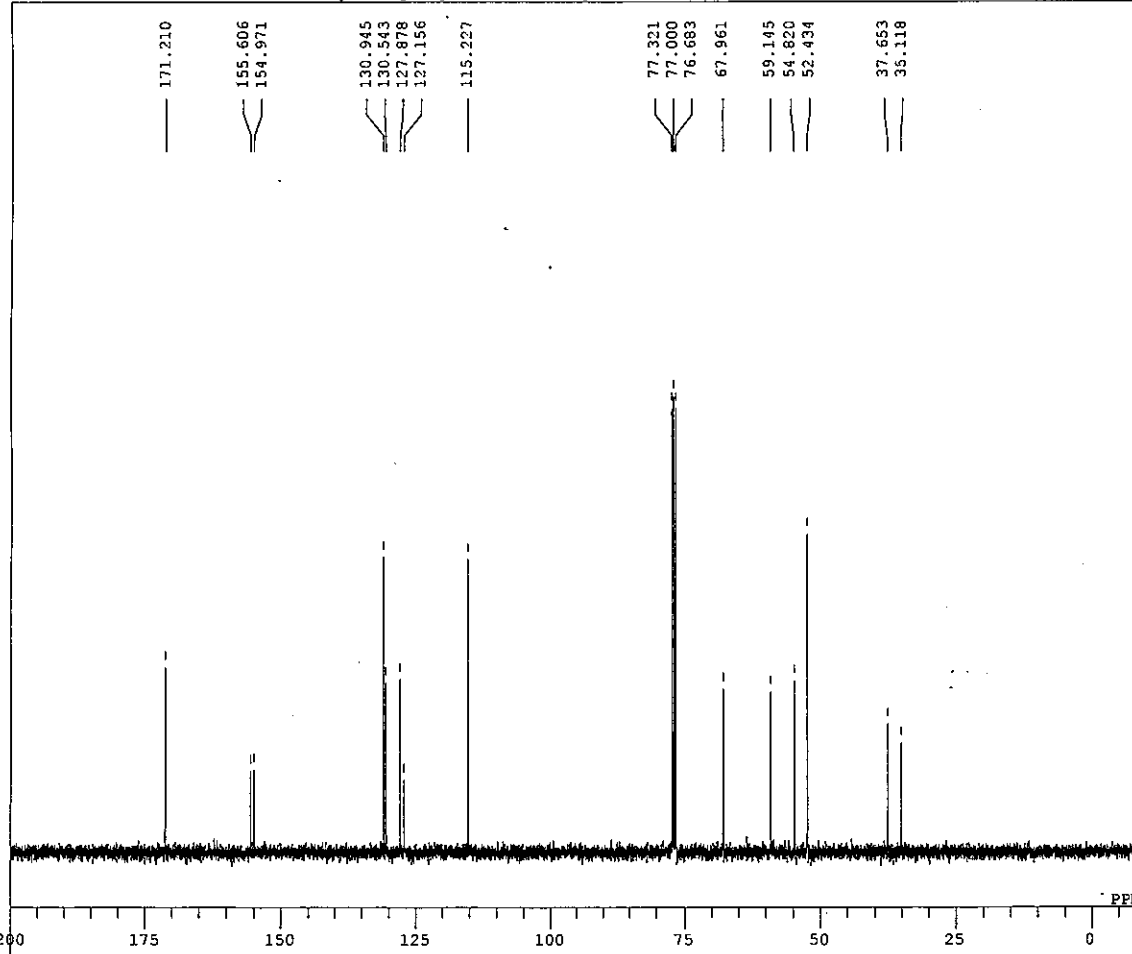
DFILE YI-p-malonate-1-1H_1.als
COMNT KYKI-p-EST-1-1H
DATIM 15-NOV-2008 18:07:17
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 21.6 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



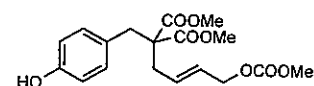
¹H-NMR: 3a

YKYI-p-EST-1-13C

G:\NMR\12<2008"N"x\11-N\~ *1-pli11-11j\A p-malomite\VI-p-malonate-1-13C 1.als



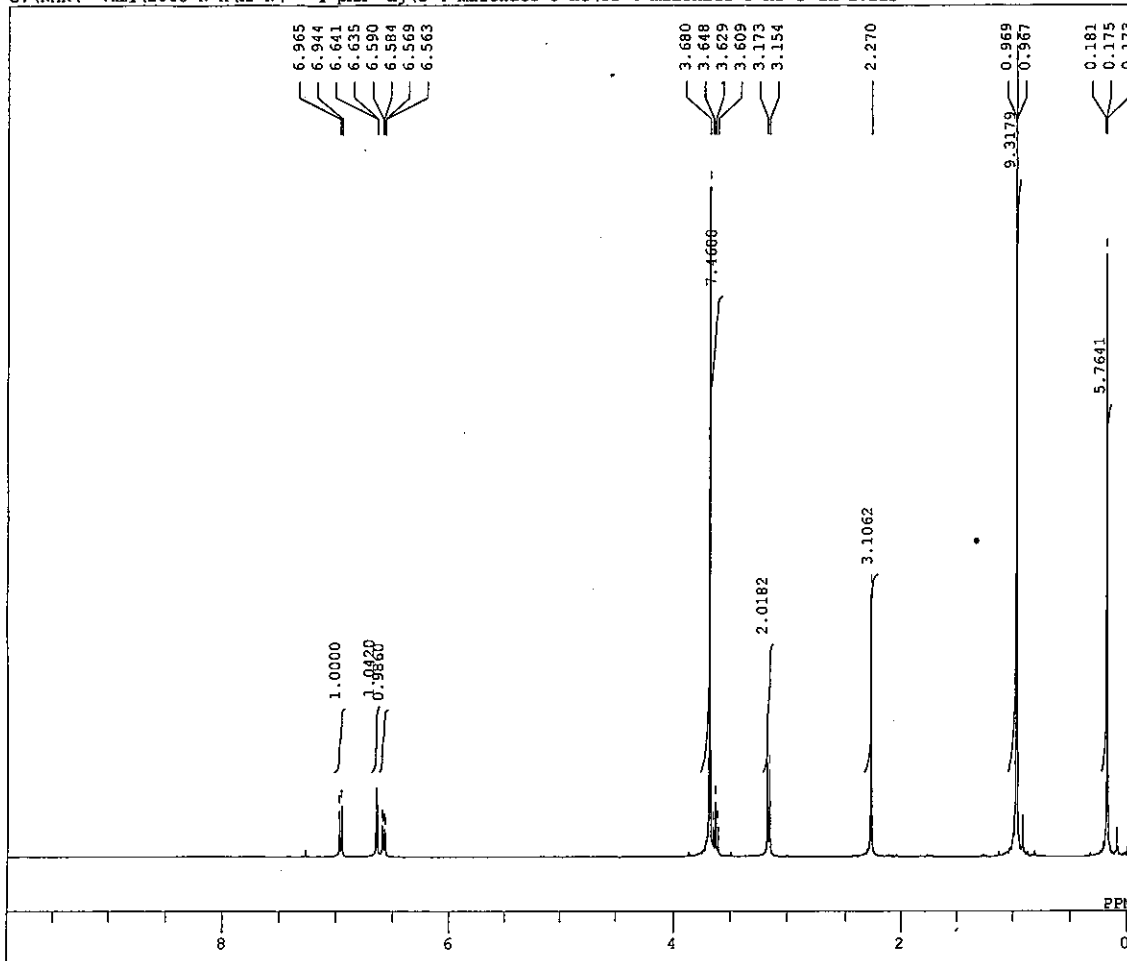
DFILE YI-p-malonate-1-13C_1.als
COMNT KYKI-p-EST-1-13C
DATIM 15-NOV-2008 18:12:52
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 63
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 22.7 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



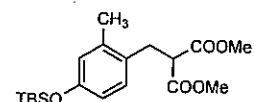
¹³C NMR: 3a

YKYI-08-630-1H

G:\NMR\12<2008"N"x\I-N\ -T-pil~Uj\G 4-malonate-3-Me\YI-4-malonate-3-Me-3-1H 1.als



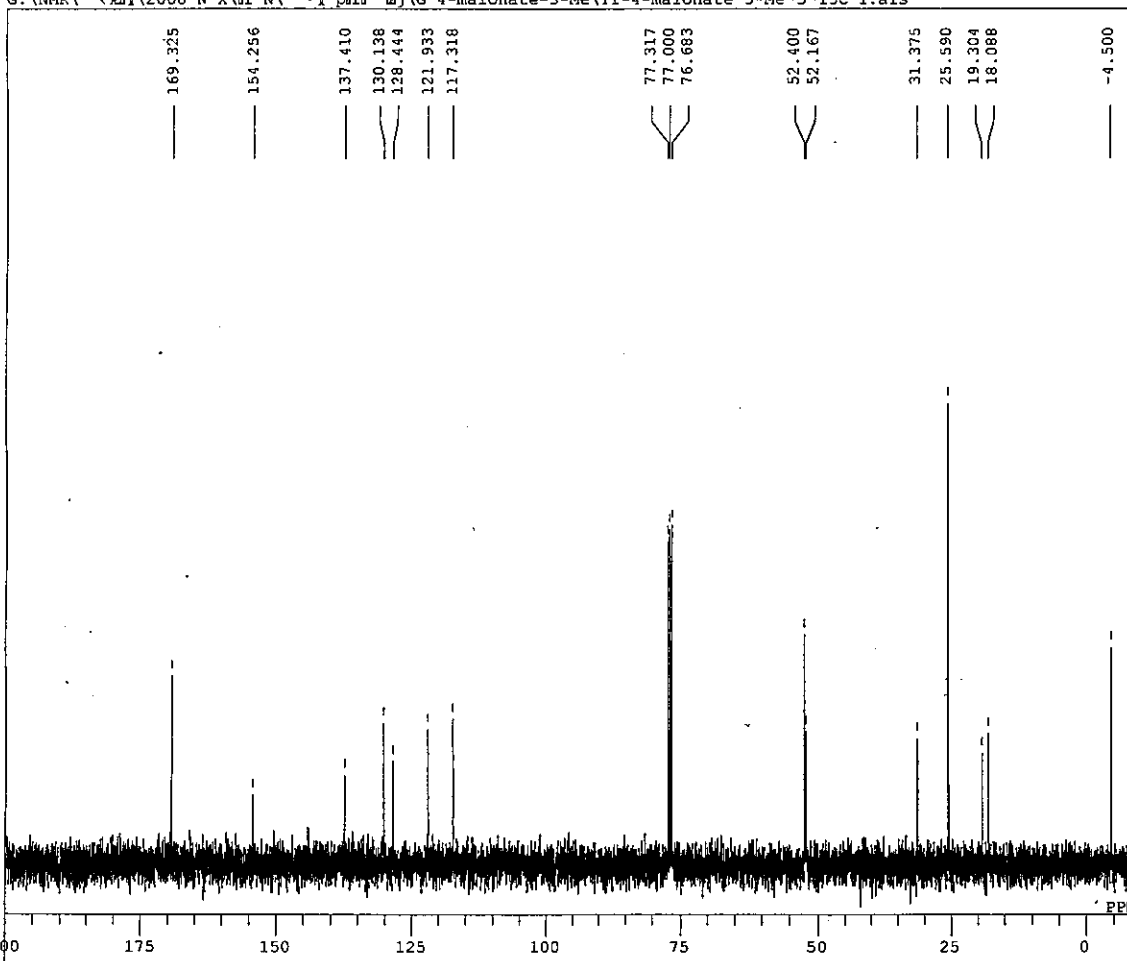
DFILE YI-4-malonate-3-Me-3-1H_1.a.
COMNT YKYI-08-630-1H
DATIM 17-DEC-2008 20:18:44
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
FW1 6.70 usec
IRNUC 1H
CTEMP 18.5 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9



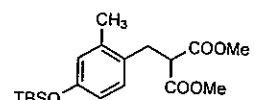
¹H-NMR: S-3

YKYI-08-630-13C

G:\NMR\12<2008"N"x\I-N\ -T-pil~Uj\G 4-malonate-3-Me\YI-4-malonate-3-Me-3-13C 1.als



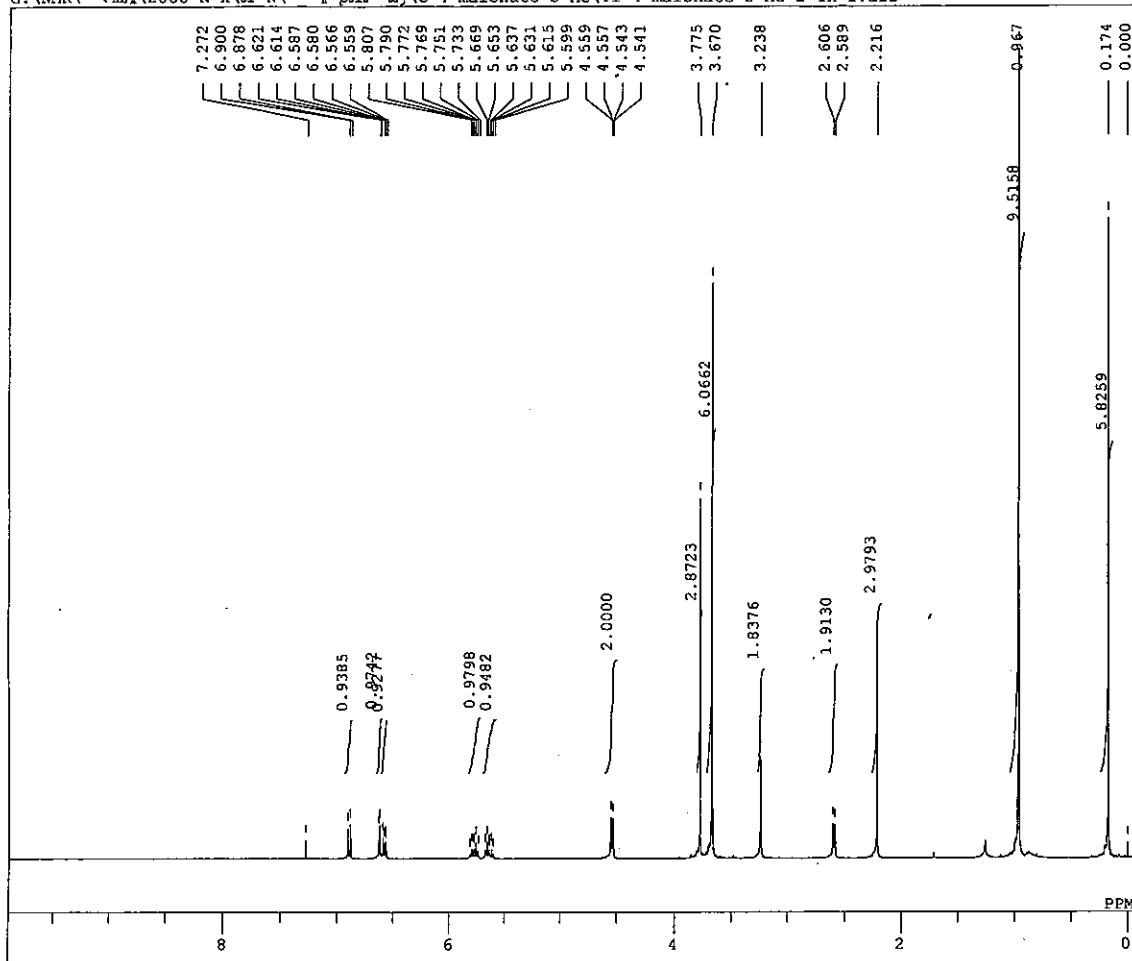
DFILE YI-4-malonate-3-Me-3-13C_1.
COMNT YKYI-08-630-13C
DATIM 17-DEC-2008 20:22:41
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 35
ACQTM 2.6018 sec
PD 1.5000 sec
FW1 3.50 usec
IRNUC 1H
CTEMP 19.7 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



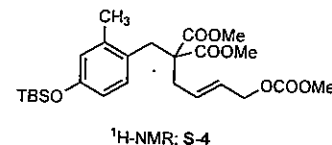
¹³C NMR: S-3

YKYI-08-632-1H

G:\NMR\12< 2008\N\X\01-N\ -f-plif-0j\G 4-malonate-3-Me\YI-4-malonate-3-Me-2-1H 1.als

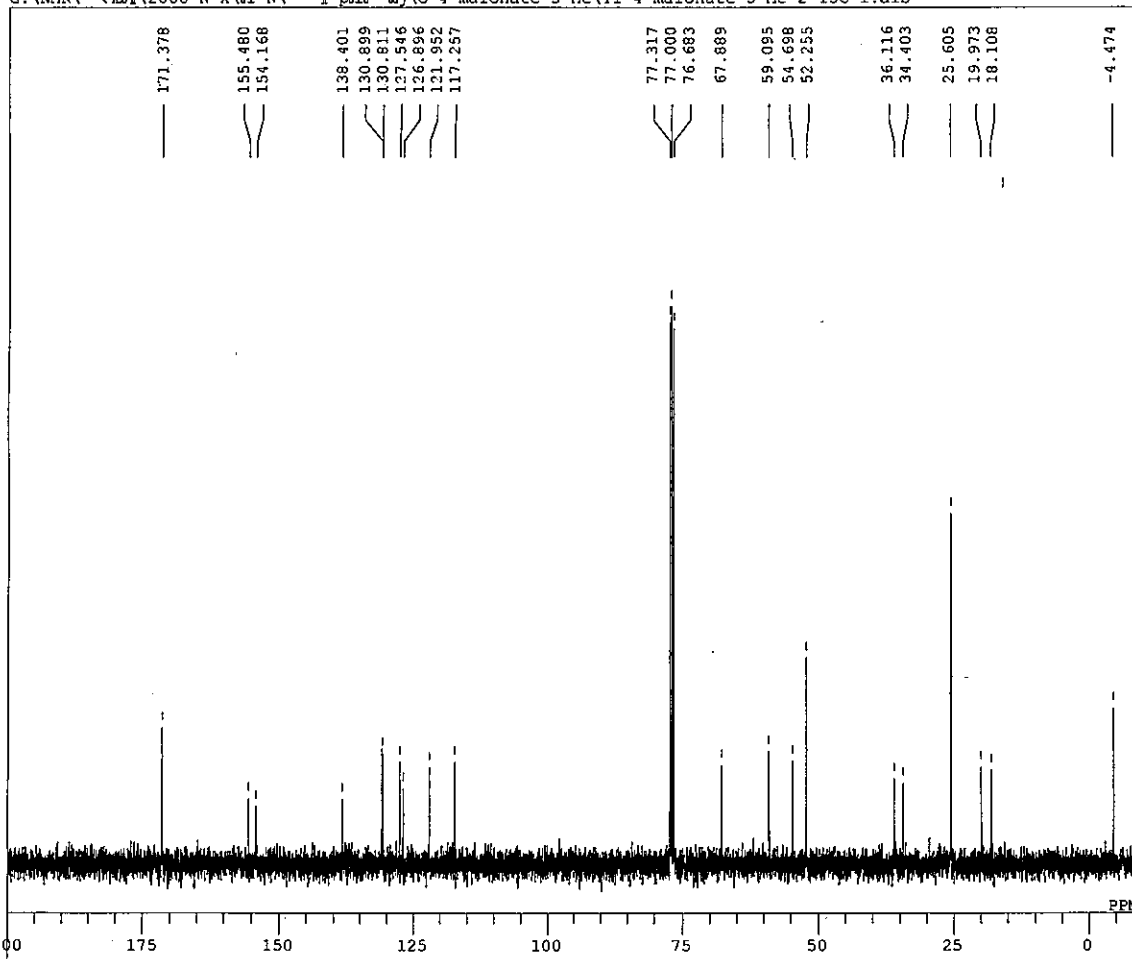


DFILE YI-4-malonate-3-Me-2-1H_1.als
 COMNT YKYI-08-632-1H
 DATIM 18-DEC-2008 17:52:56
 OBNUC 1H
 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 18.3 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 10

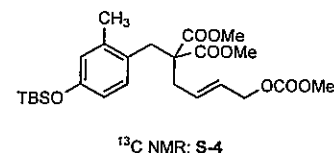


YKYI-08-632-13C

G:\NMR\12< 2008\N\X\01-N\ -f-plif-0j\G 4-malonate-3-Me\YI-4-malonate-3-Me-2-13C 1.als

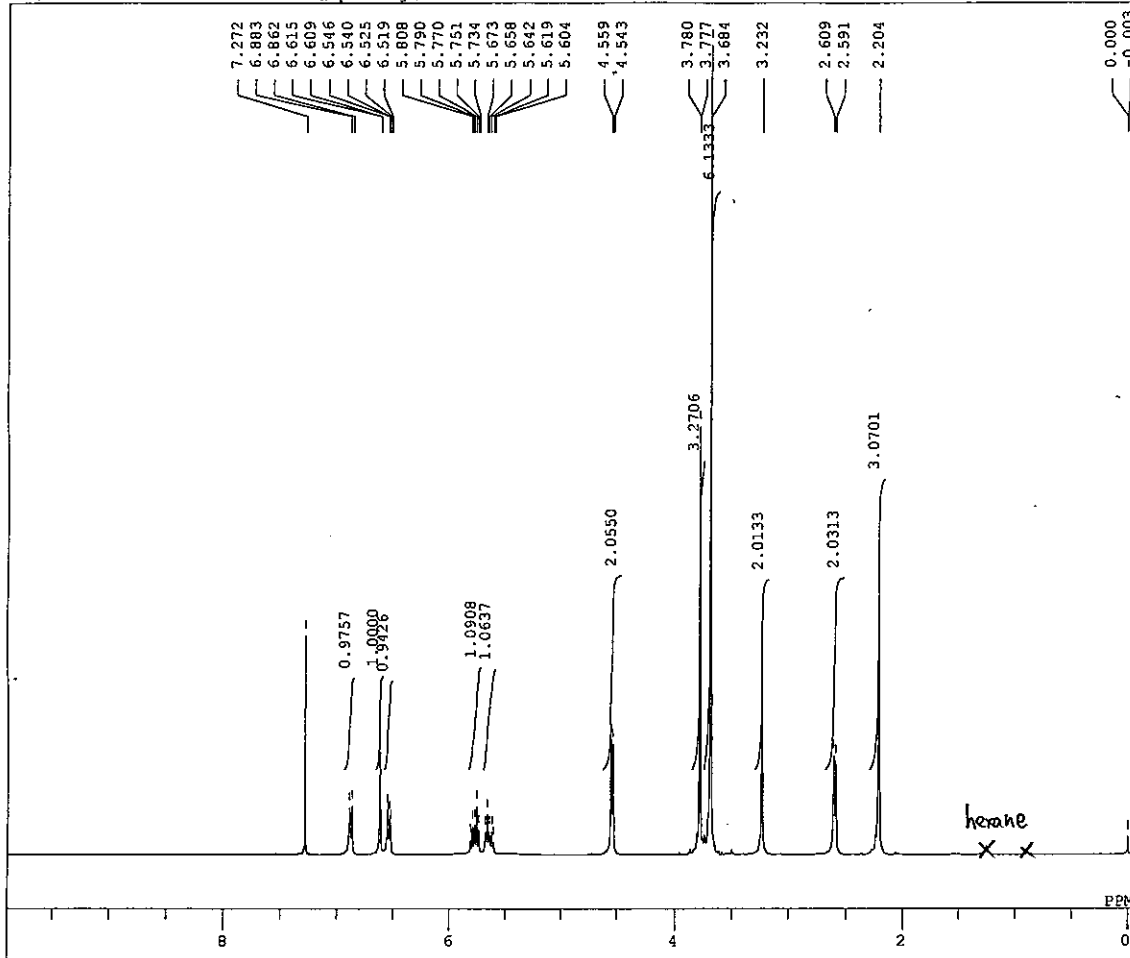


DFILE YI-4-malonate-3-Me-2-13C_1.als
 COMNT YKYI-08-632-13C
 DATIM 18-DEC-2008 18:02:22
 OBNUC 13C
 EXMOD single pulse dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 102
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 19.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26

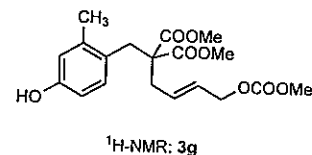


YKYI-08-634-1H

G:\NMR\12<2008\N\X\I\N\` *g-p0i0-0j\G 4-malonate-3-Me\YI-4-malonate-3-Me-1-1H 1.als

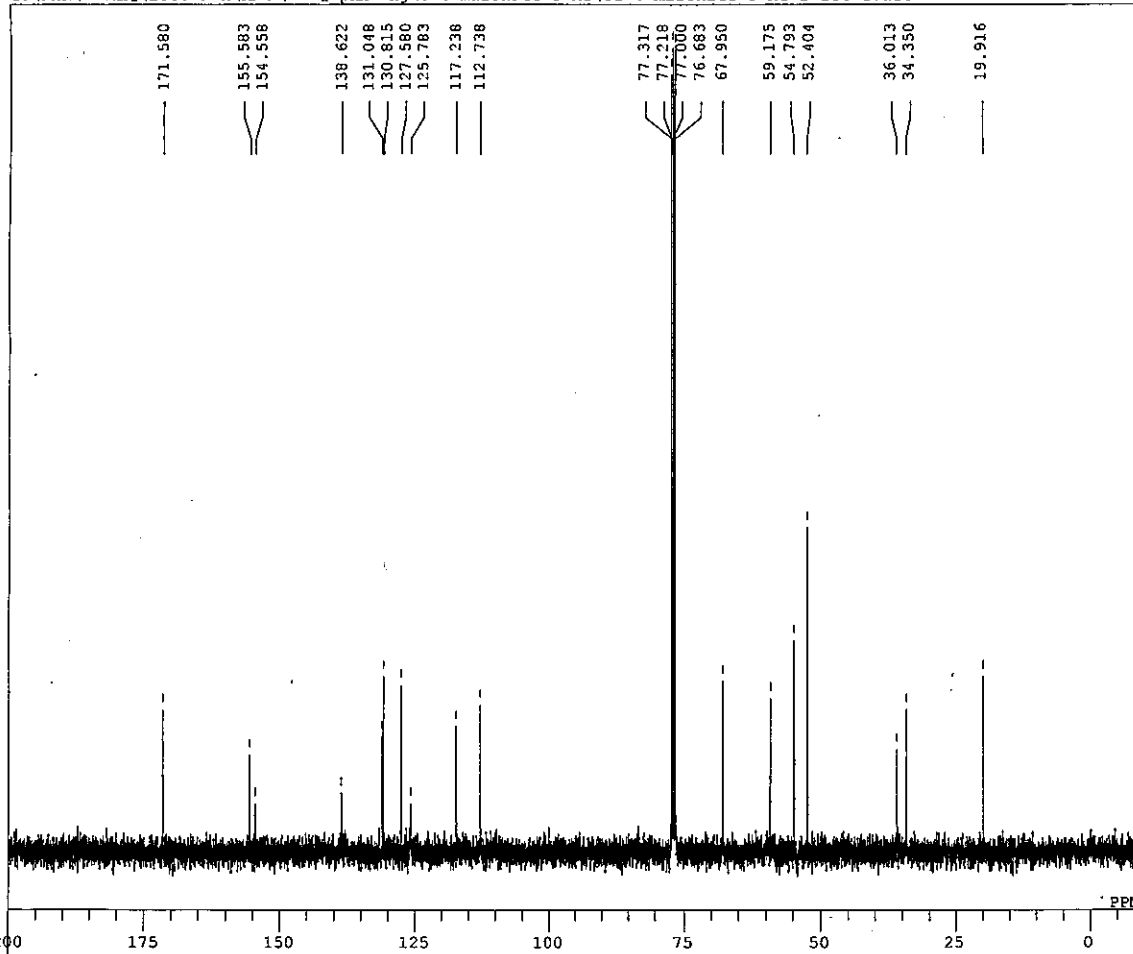


DFILE YI-4-malonate-3-Me-1-1H_1.a.
 COMNT YKYI-08-634-1H
 DATIM 18-DEC-2008 18:05:41
 OBNUC 1H
 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 18.6 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 13

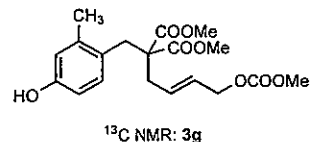


YKYI-08-634-13C

G:\NMR\12<2008\N\X\I\N\` *g-p0i0-0j\G 4-malonate-3-Me\YI-4-malonate-3-Me-1-13C 1.als

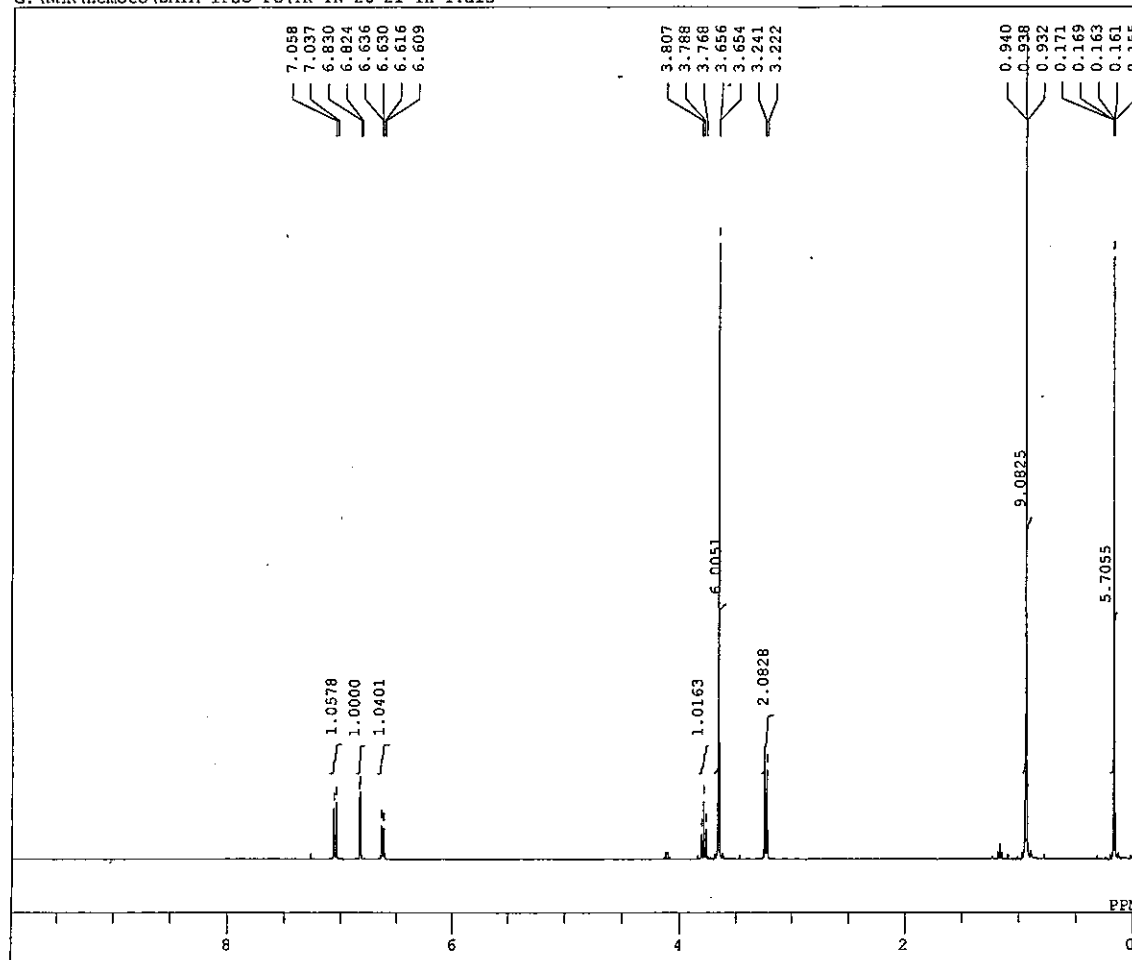


DFILE YI-4-malonate-3-Me-1-13C_1.a.
 COMNT YKYI-08-634-13C
 DATIM 18-DEC-2008 18:25:13
 OBNUC 13C
 EXMOD single pulse dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 268
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 19.6 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26

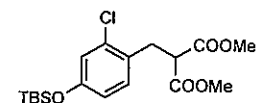


YK-TN-26-21-1H

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-26-21-1H 1.als

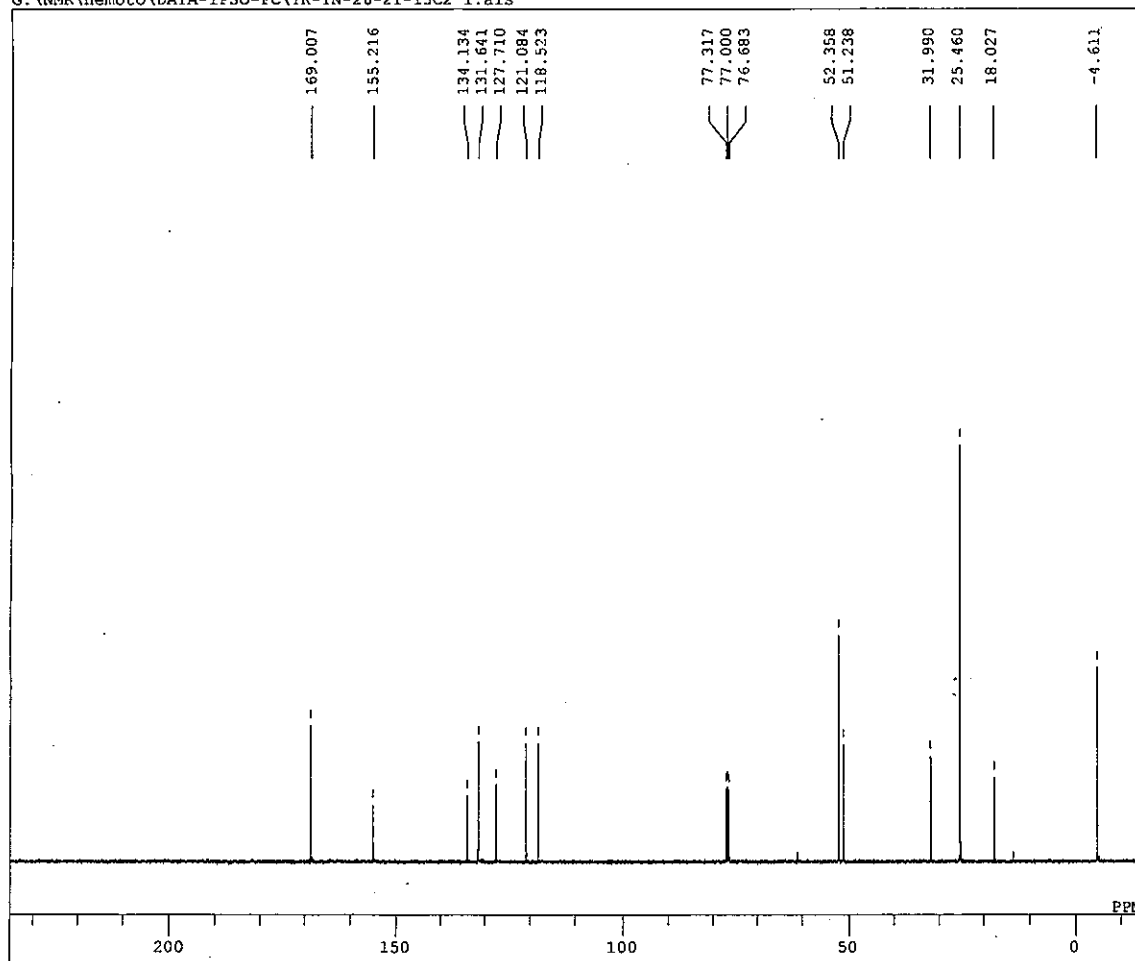


DFILE YK-TN-26-21-1H 1.als
 COMNT YK-TN-26-21-1H
 DATIM 16-APR-2010 05:11:25
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 4
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 20.7 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 5

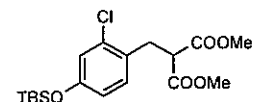
¹H-NMR: S-5

YK-TN-26-21-13C2

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-26-21-13C2 1.als

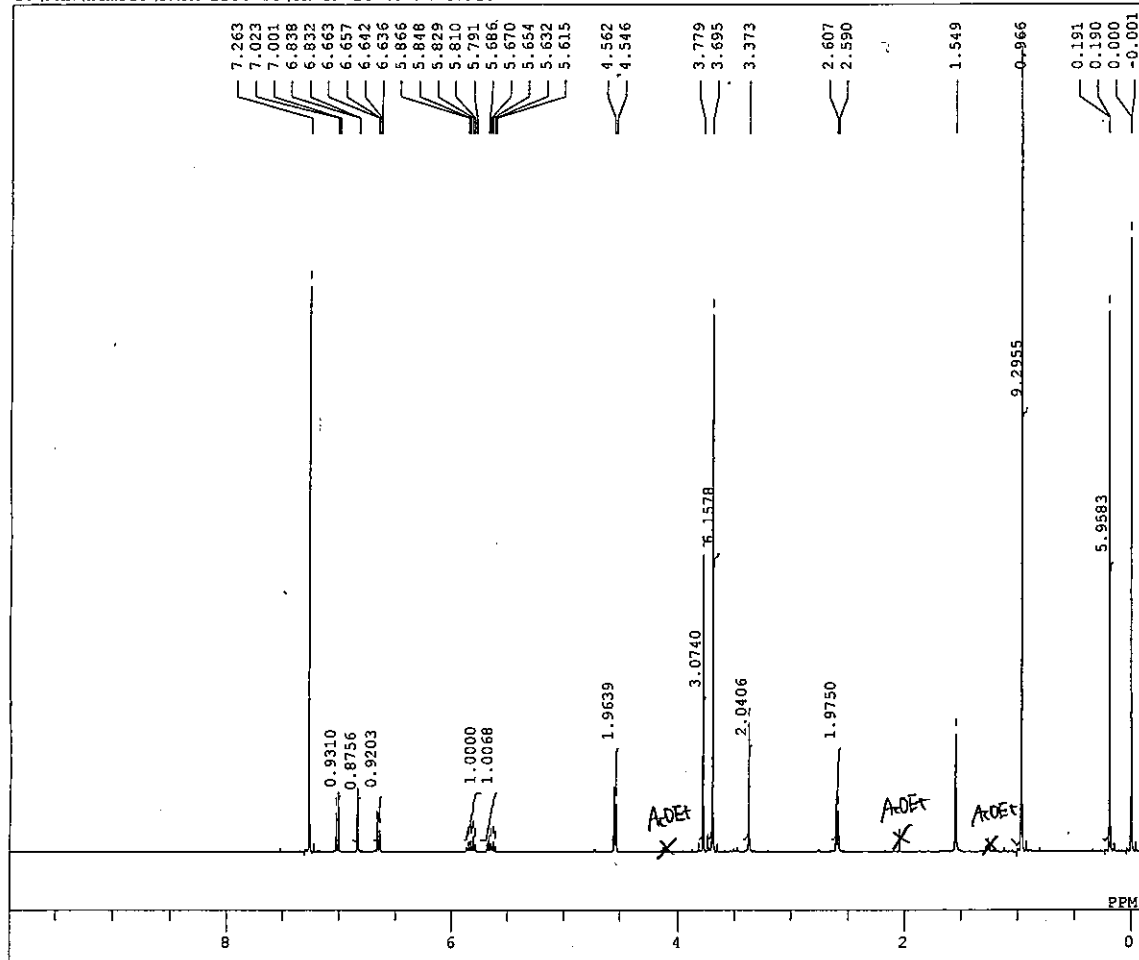


DFILE YK-TN-26-21-13C2_1.als
 COMNT YK-TN-26-21-13C2
 DATIM 16-APR-2010 05:09:39
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 32
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 21.4 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

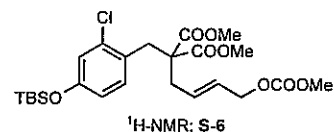
¹³C NMR: S-5

YK-TN-26-23-1H

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-26-23-1H 1.als

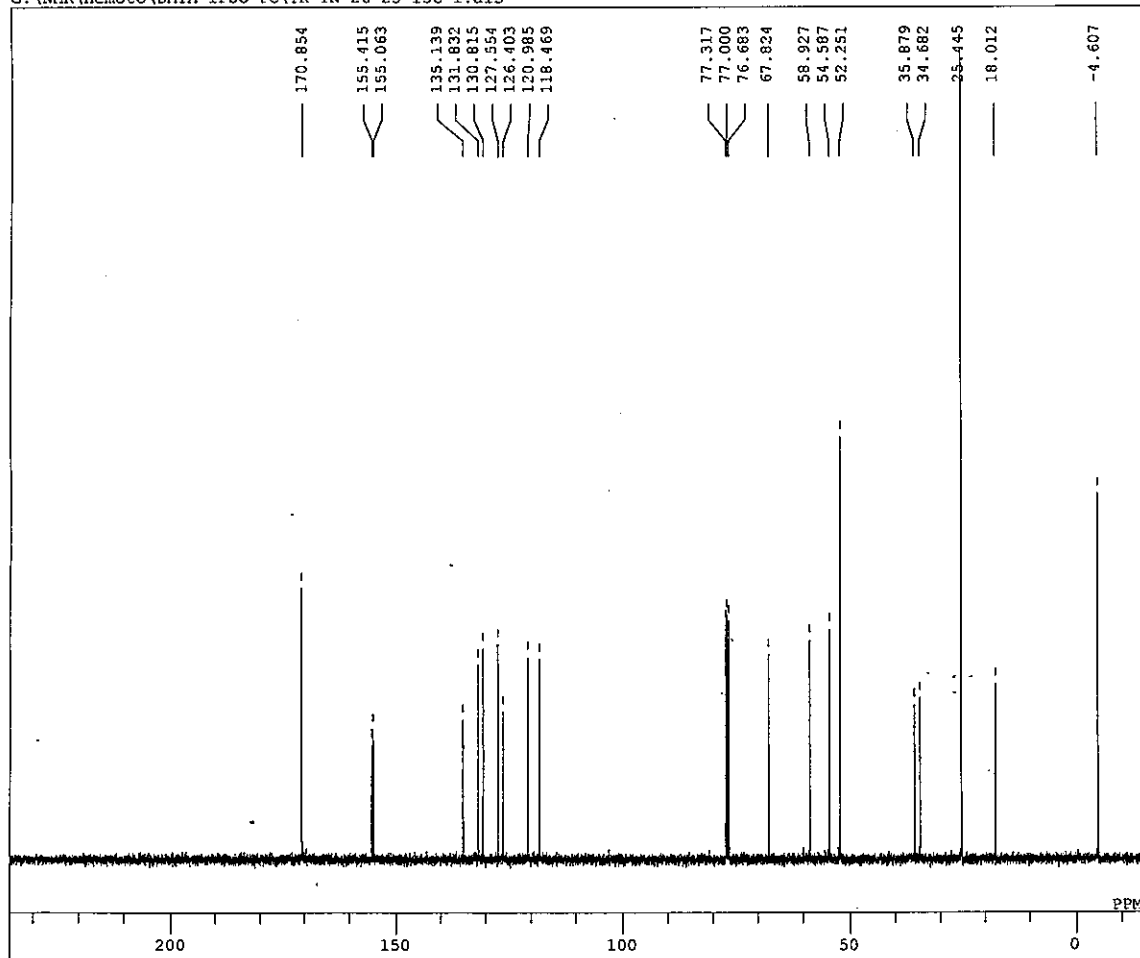


DFILE YK-TN-26-23-1H 1.als
 COMNT YK-TN-26-23-1H
 DATIM 18-APR-2010 00:35:53
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.1 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 20

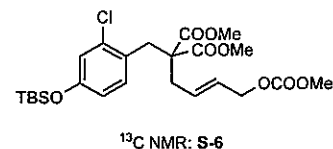


YK-TN-26-23-13C

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-26-23-13C 1.als

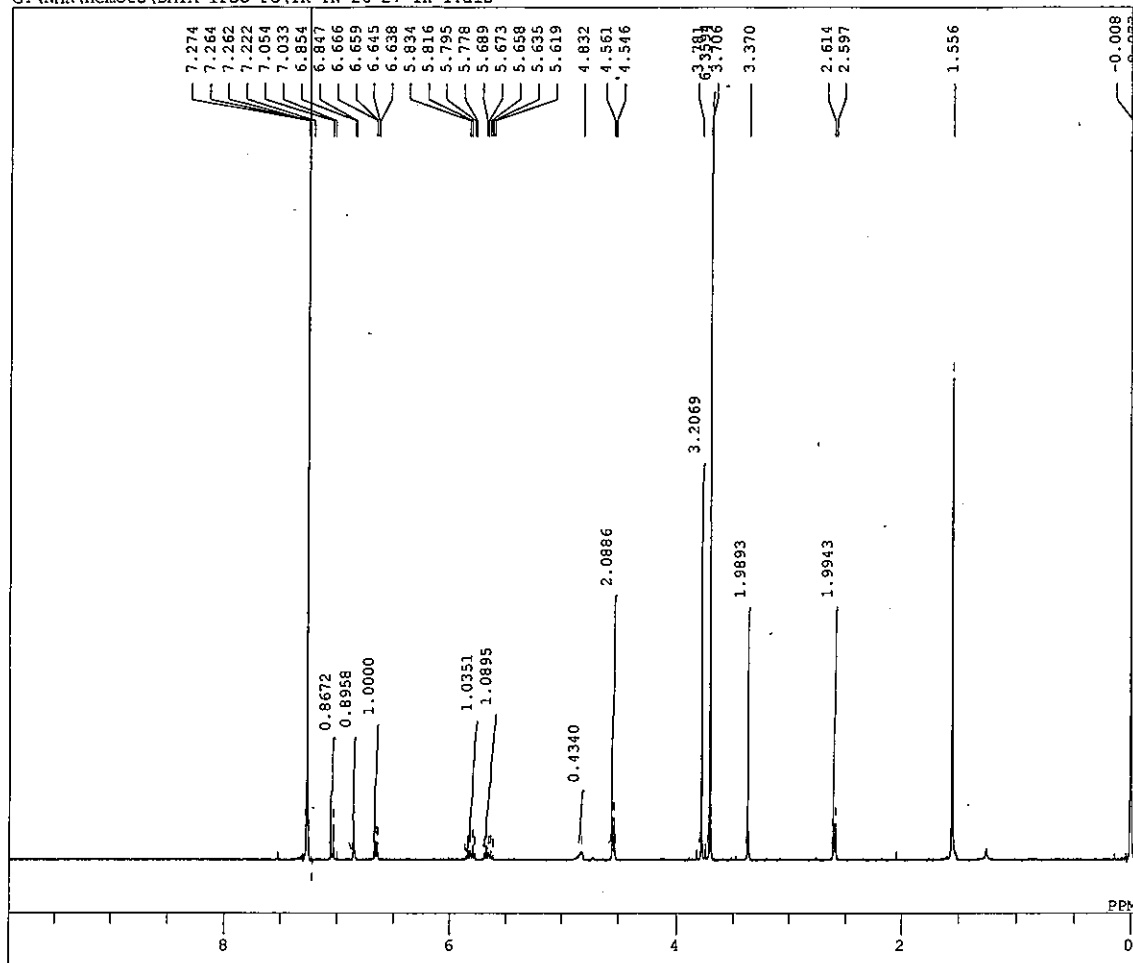


DFILE YK-TN-26-23-13C 1.als
 COMNT YK-TN-26-23-13C
 DATIM 18-APR-2010 00:43:22
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 37
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

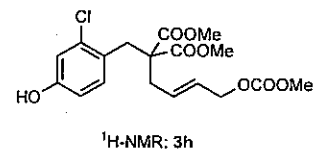


YK-TN-26-27-1H

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-26-27-1H 1.als

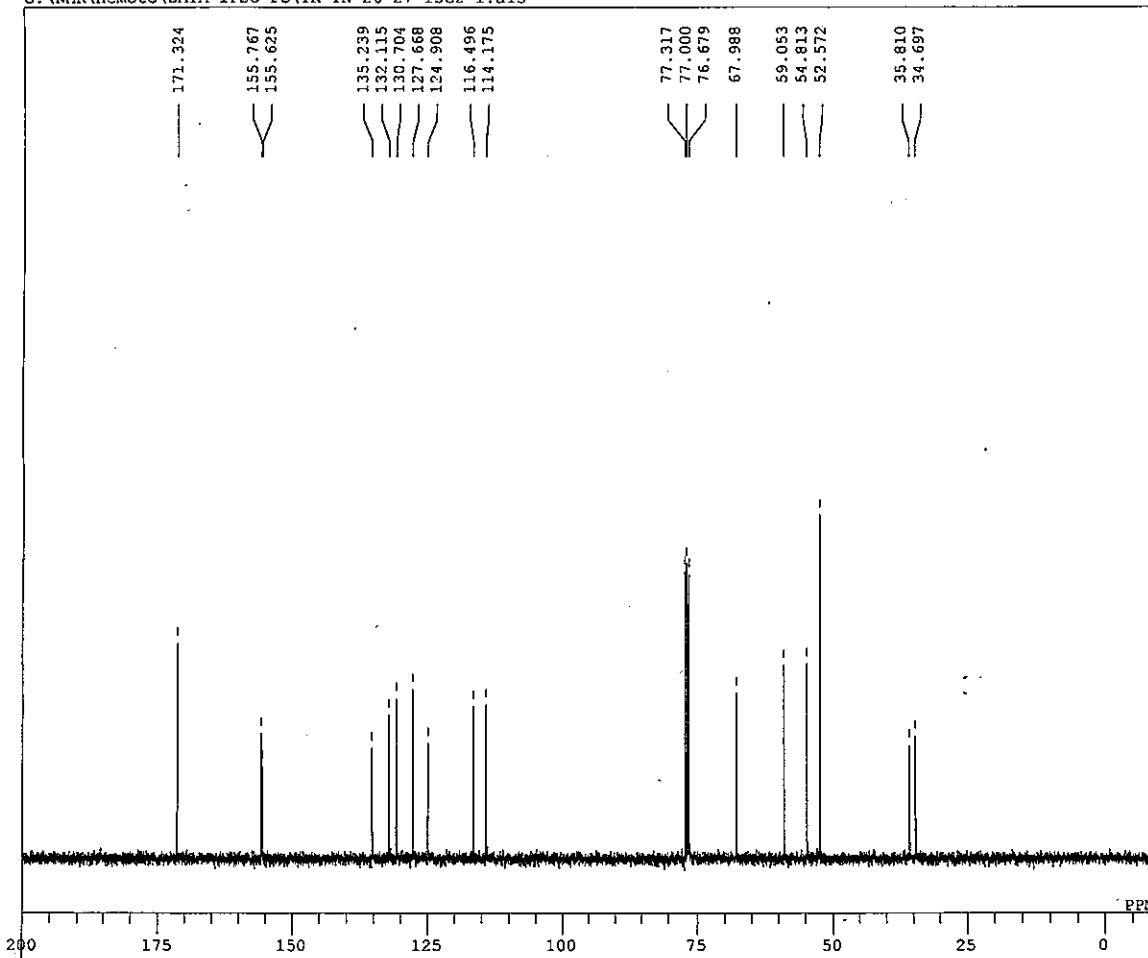


DFILE YK-TN-26-27-1H 1.als
 COMNT YK-TN-26-27-1H
 DATIM 21-APR-2010 19:14:51
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 22

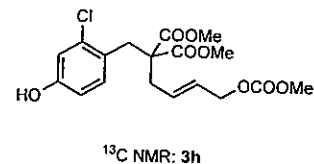


YK-TN-26-27-13C2

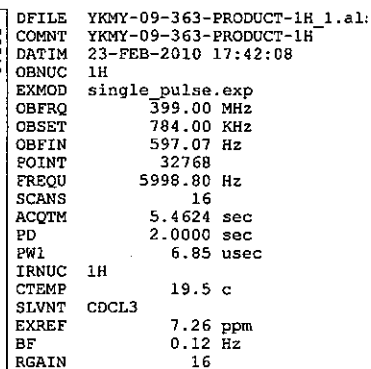
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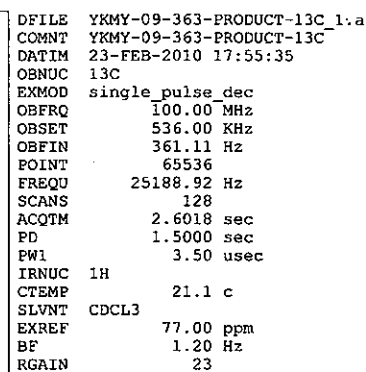
DFILE YK-TN-26-27-13C2 1.als
 COMNT YK-TN-26-27-13C2
 DATIM 21-APR-2010 19:09:14
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 45
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24



G:\NMR\cgc\spiro data\YKMY-09-363-PRODUCT-1H 1.als

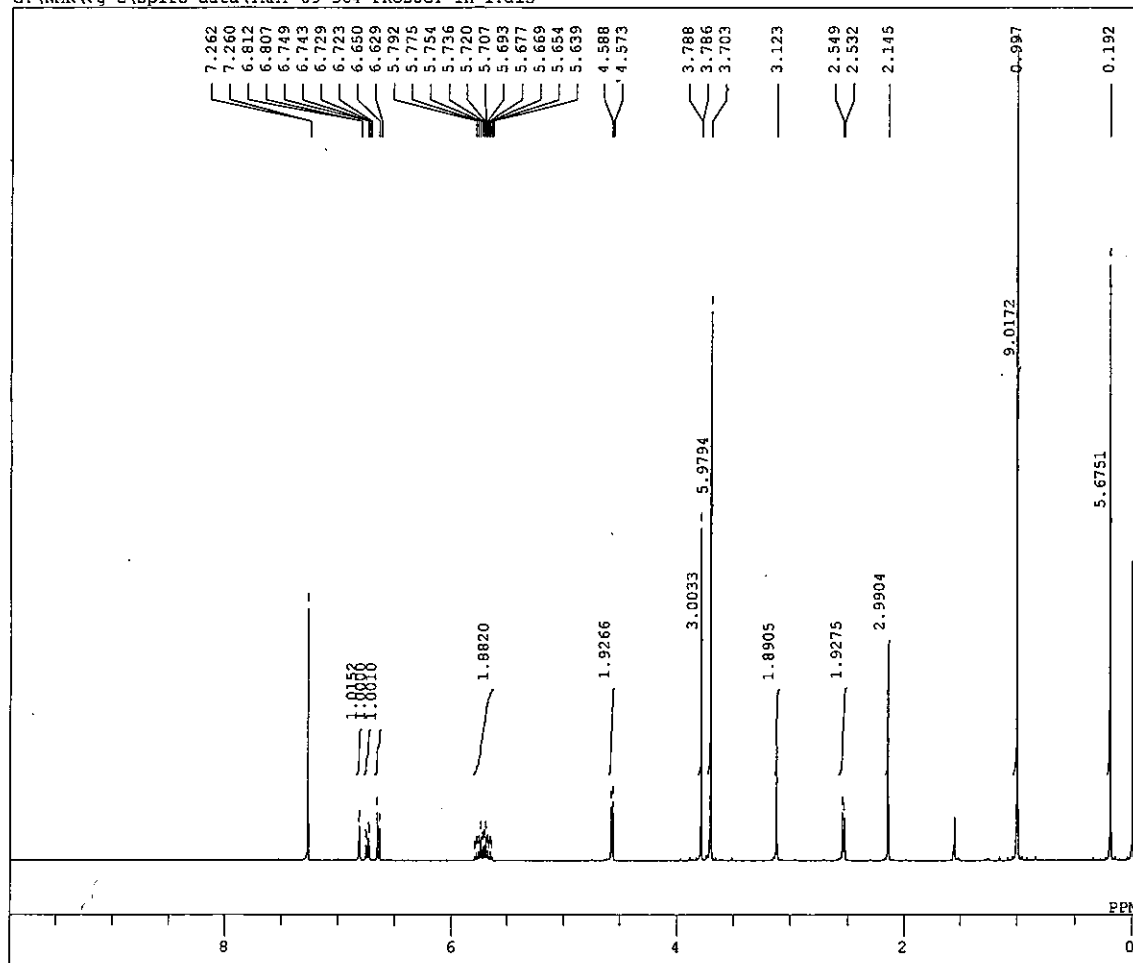


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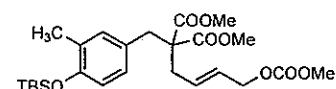


YKMY-09-364-PRODUCT-1H

G:\NMR\g" c\spiro data\YKMY-09-364-PRODUCT-1H 1.als



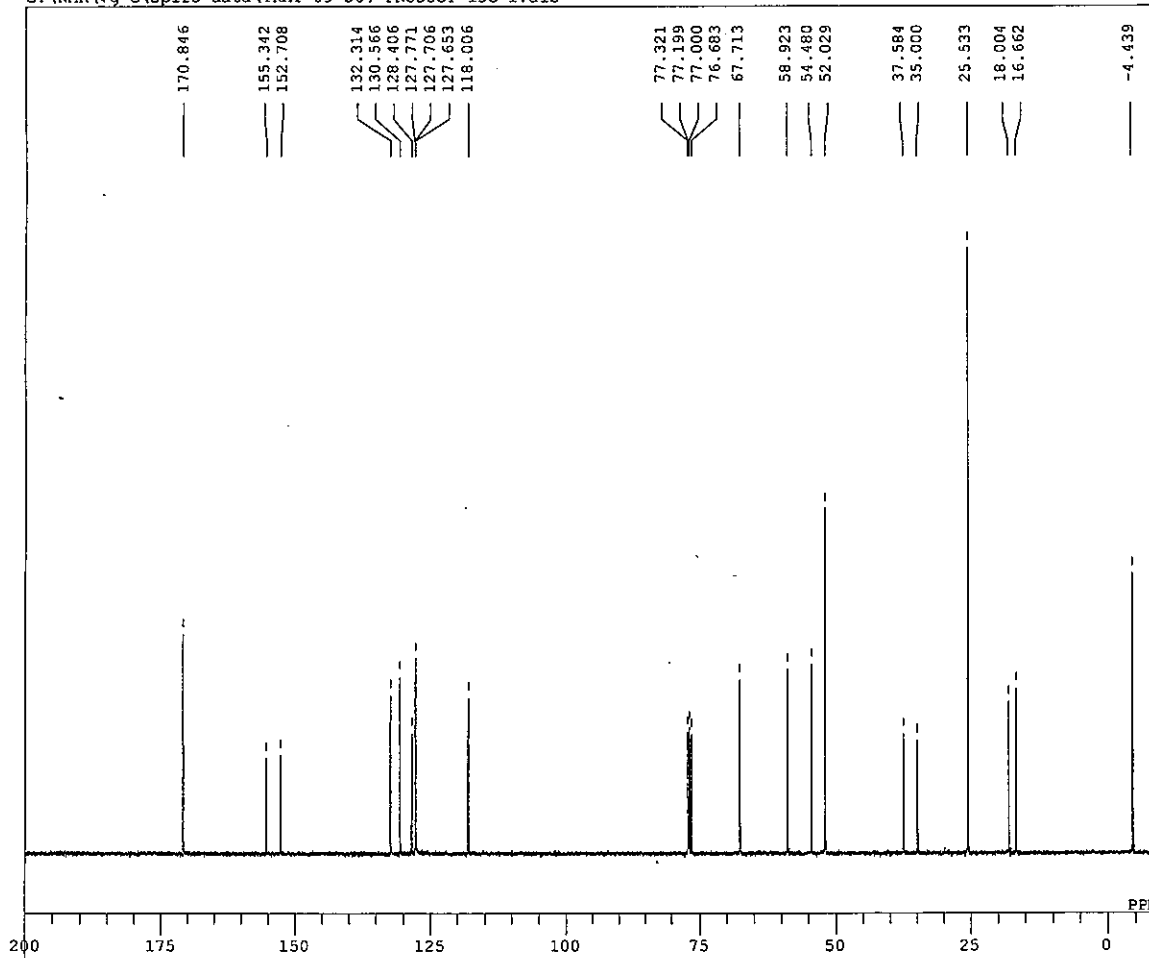
DFILE YKMY-09-364-PRODUCT-1H 1.als
COMNT YKMY-09-364-PRODUCT-1H
DATIM 23-FEB-2010 18:01:56
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 20.0 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 17



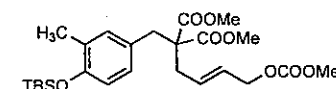
¹H NMR: S-8

YKMY-09-364-PRODUCT-13C

G:\NMR\g" c\spiro data\YKMY-09-364-PRODUCT-13C 1.als



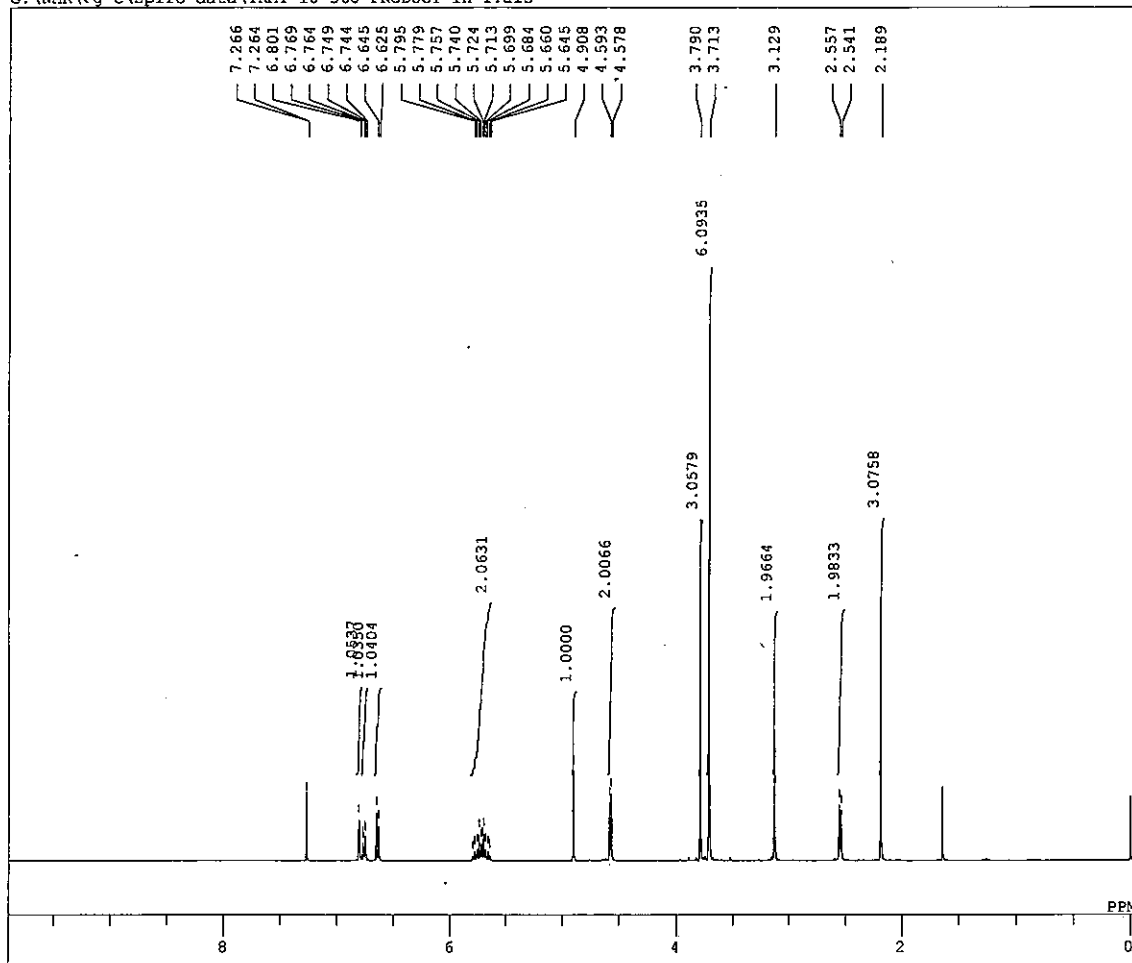
DFILE YKMY-09-364-PRODUCT-13C 1.a.
COMNT YKMY-09-364-PRODUCT-13C
DATIM 23-FEB-2010 18:09:53
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 53
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 21.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23



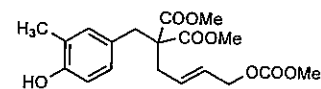
¹³C NMR: S-8

YKMY-10-368-PRODUCT-1H

G:\NMR\c\g"spiro data\YKMY-10-368-PRODUCT-1H 1.als



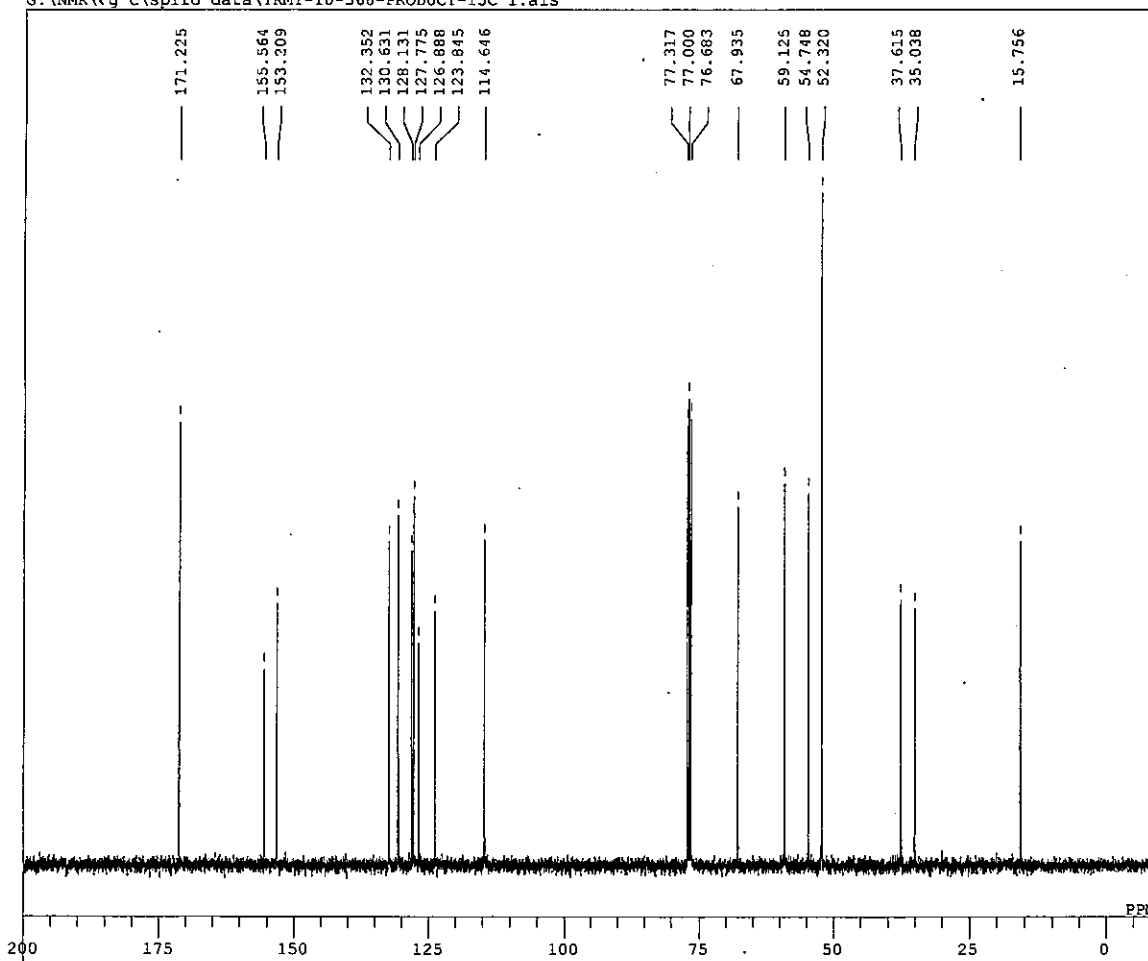
DFILE YKMY-10-368-PRODUCT-1H 1.als
COMNT YKMY-10-368-PRODUCT-1H
DATIM 27-FEB-2010 05:10:43
OBNUC 1H
EXMOD single_pulse.exp
OBFREQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
FWL 6.85 usec
IRNUC 1H
CTEMP 21.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 13



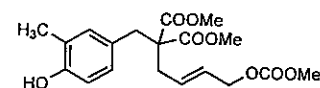
¹H NMR: 3k

YKMY-10-368-PRODUCT-13C

G:\NMR\c\g"spiro data\YKMY-10-368-PRODUCT-13C 1.als



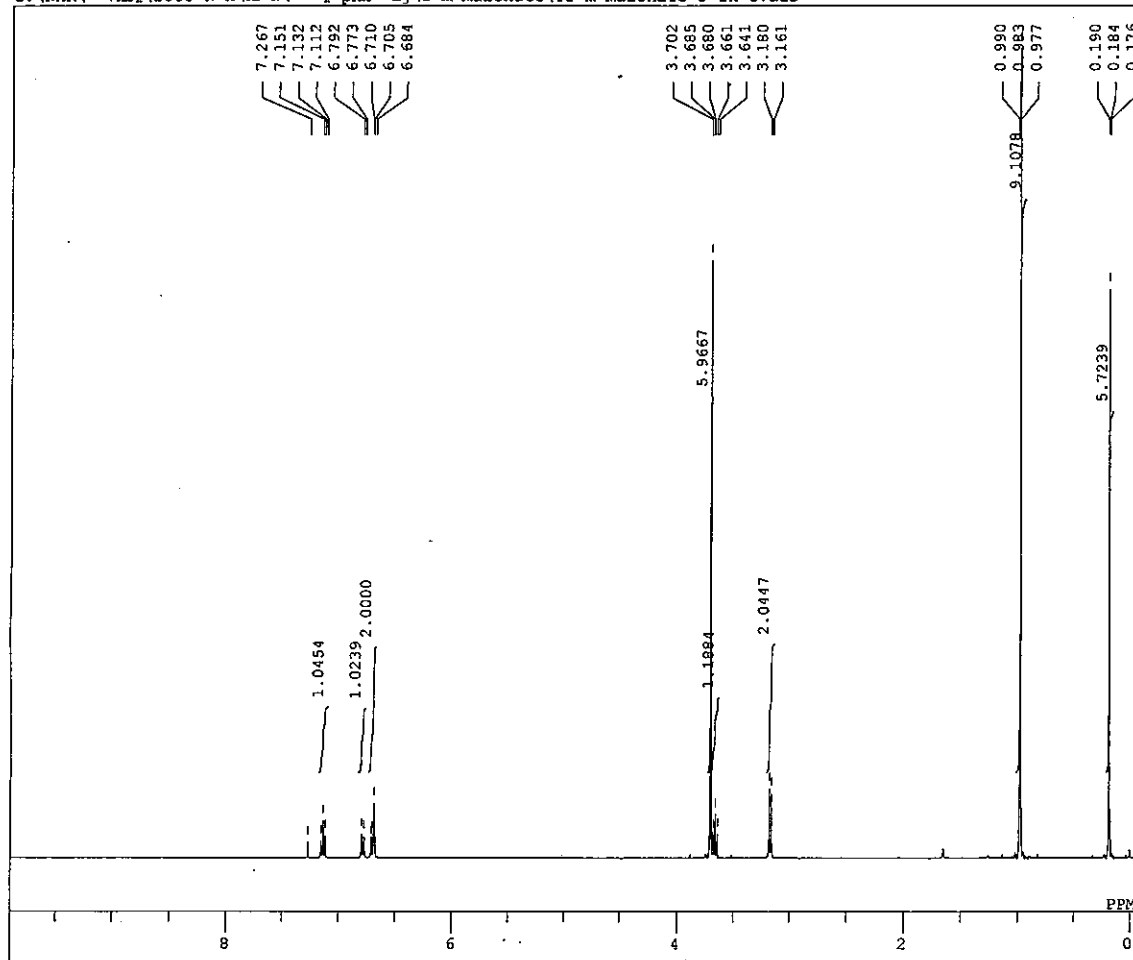
DFILE YKMY-10-368-PRODUCT-13C 1.a
COMNT YKMY-10-368-PRODUCT-13C
DATIM 27-FEB-2010 05:20:00
OBNUC 13C
EXMOD single_pulse_dec
OBFREQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 72
ACQTM 2.6018 sec
PD 1.5000 sec
FWL 3.50 usec
IRNUC 1H
CTEMP 22.2 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24



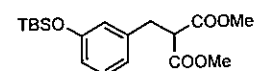
¹³C NMR: 3k

YKYI-m-mal-3-1H

G:\NMR\12<2008\N\X\01-N\~ *q-pdij-uj\D m-malonate\YI-m-malonate-3-1H 1.als



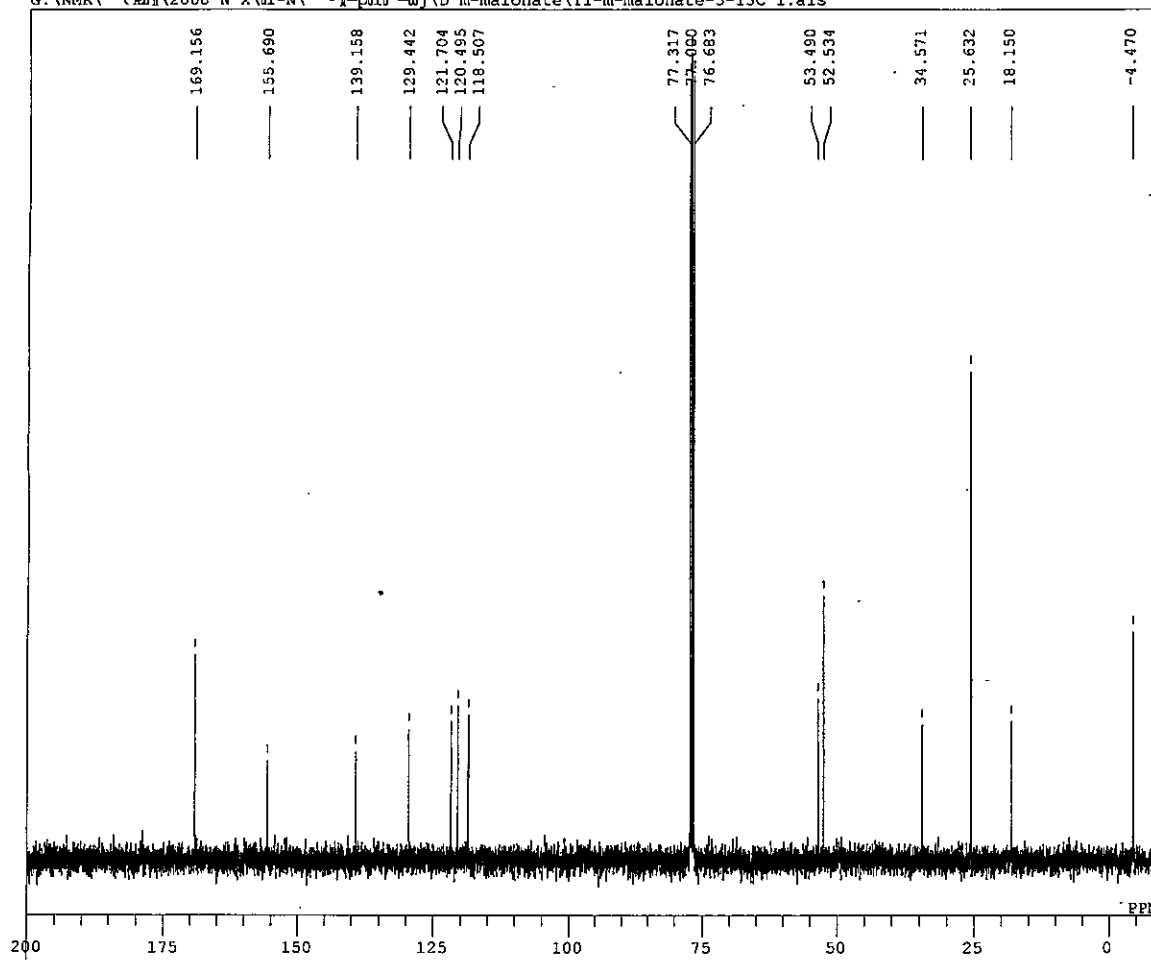
DFILE YI-m-malonate-3-1H_1.als
COMNT YKYI-m-mal-3-1H
DATIM 25-NOV-2008 18:48:29
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 18.7 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



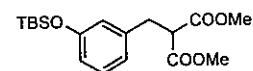
¹H-NMR: S-9

YKYI-m-mal-3-13C

G:\NMR\12<2008\N\X\01-N\~ *q-pdij-uj\D m-malonate\YI-m-malonate-3-13C 1.als



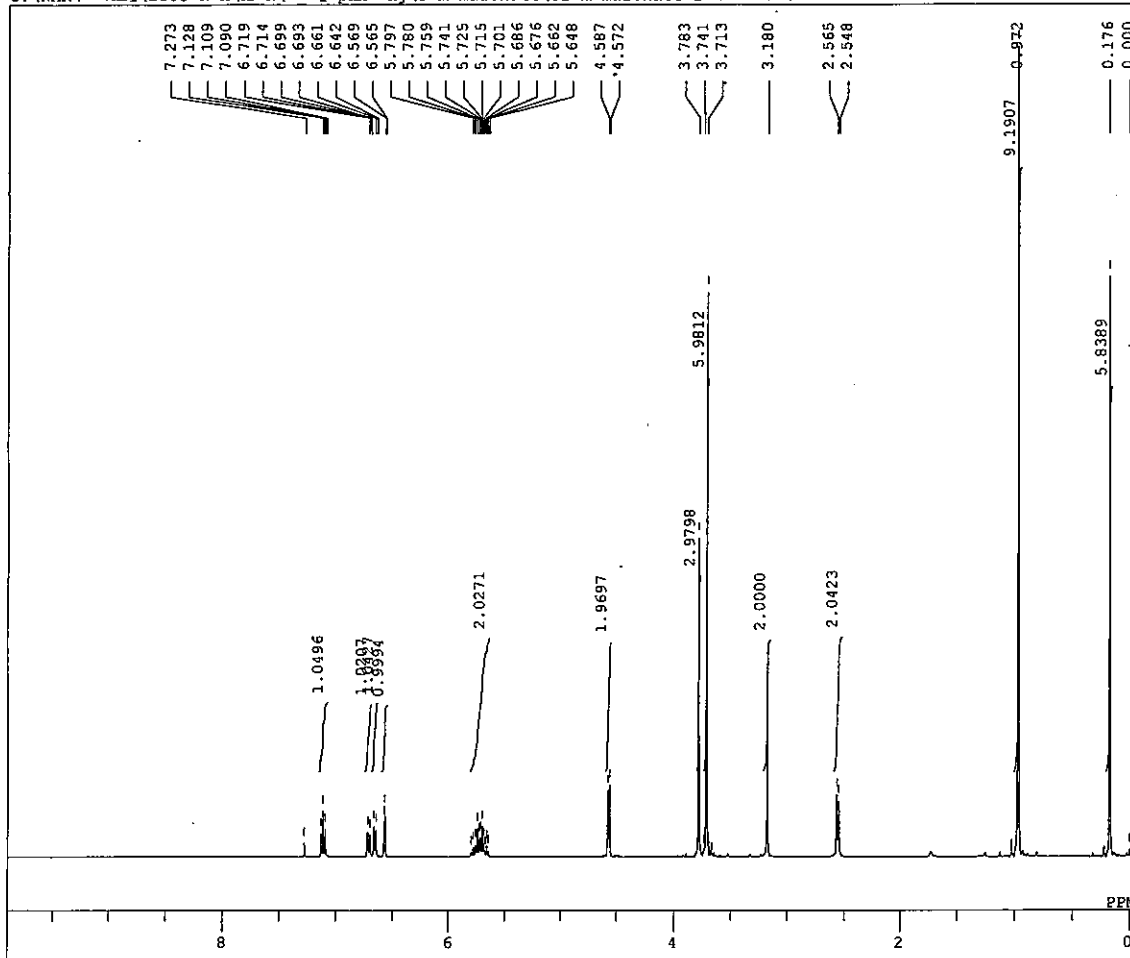
DFILE YI-m-malonate-3-13C_1.als
COMNT YKYI-m-mal-3-13C
DATIM 25-NOV-2008 19:02:24
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 156
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 20.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



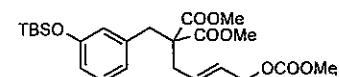
¹³C NMR: S-9

YKYI-m-mal-2-1H

G:\NMR\12<2008\N\X\Uf-N\ - 9-plil-Uj\D m-malonate\YI-m-malonate-2-1H 1.als



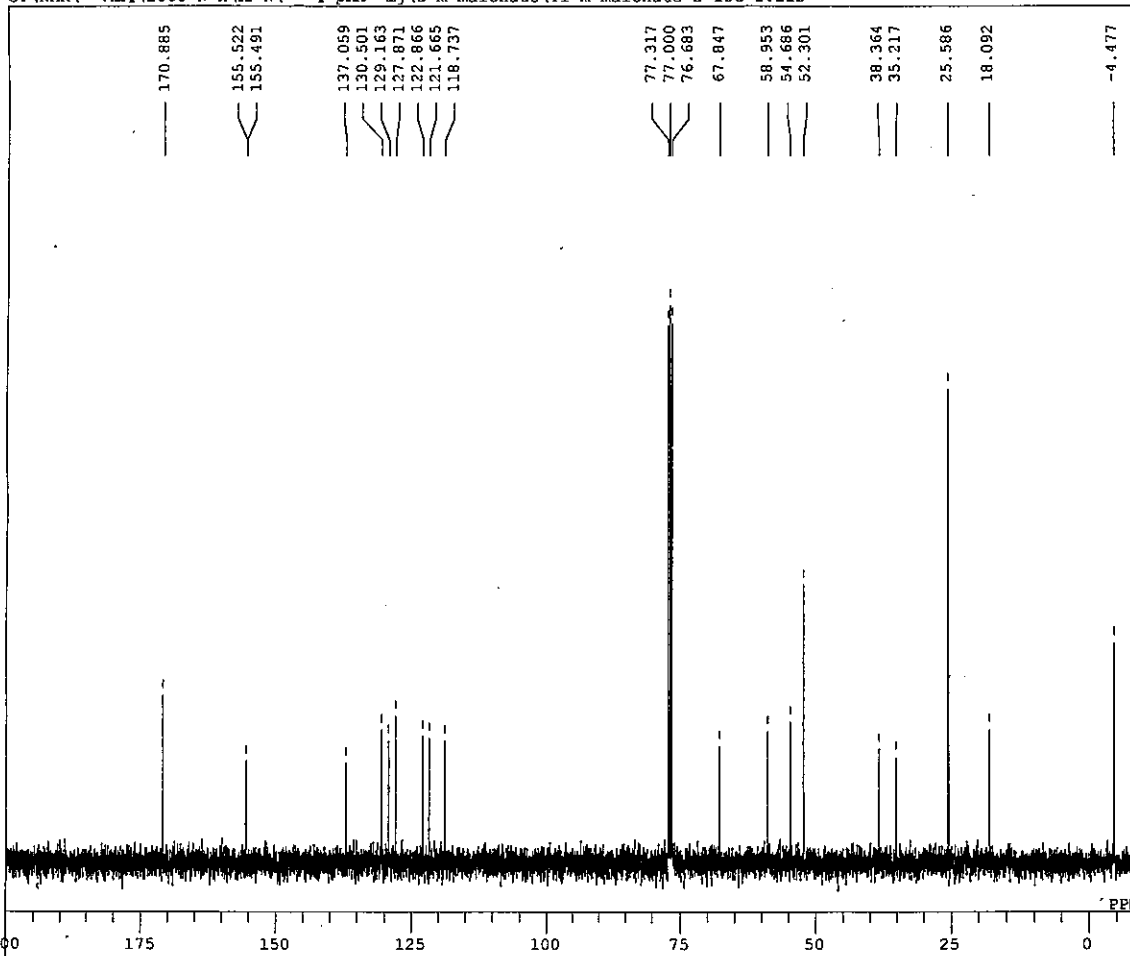
DFILE YI-m-malonate-2-1H_1.als
COMNT YKYI-m-mal-2-1H
DATIM 26-NOV-2008 18:57:52
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 18.5 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9



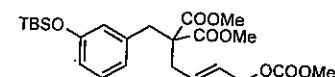
¹H-NMR: S-10

YKYI-m-mal-2-13C

G:\NMR\12<2008\N\X\Uf-N\ - 9-plil-Uj\D m-malonate\YI-m-malonate-2-13C 1.als



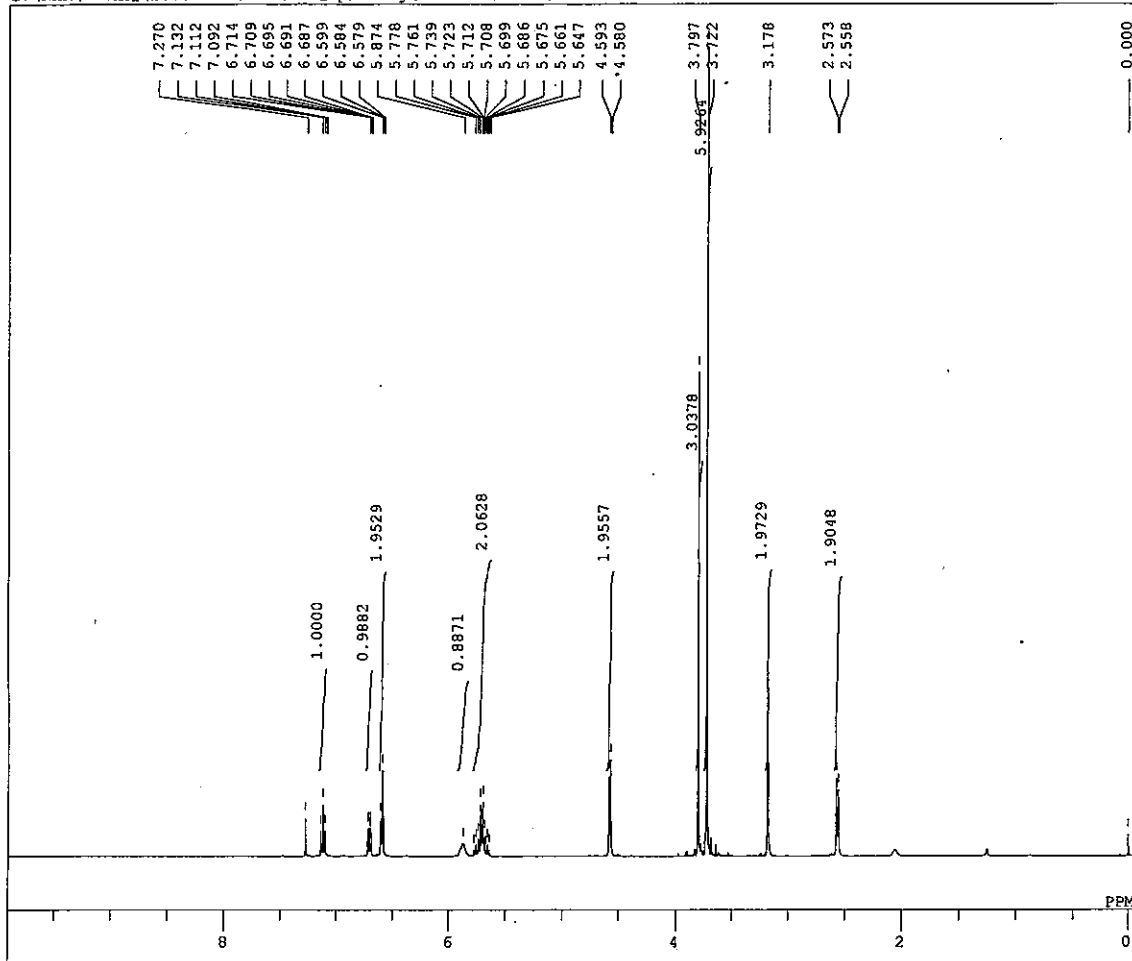
DFILE YI-m-malonate-2-13C_1.als
COMNT YKYI-m-mal-2-13C
DATIM 28-NOV-2008 18:30:07
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 99
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 25.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



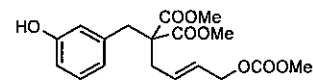
¹³C NMR: S-10

YKYI-m-mal-1

G:\NMR\12<2008"N"x\02-N\~*q-p0if-0j\D m-malonate\YI-m-malonate-1-1H 1.als



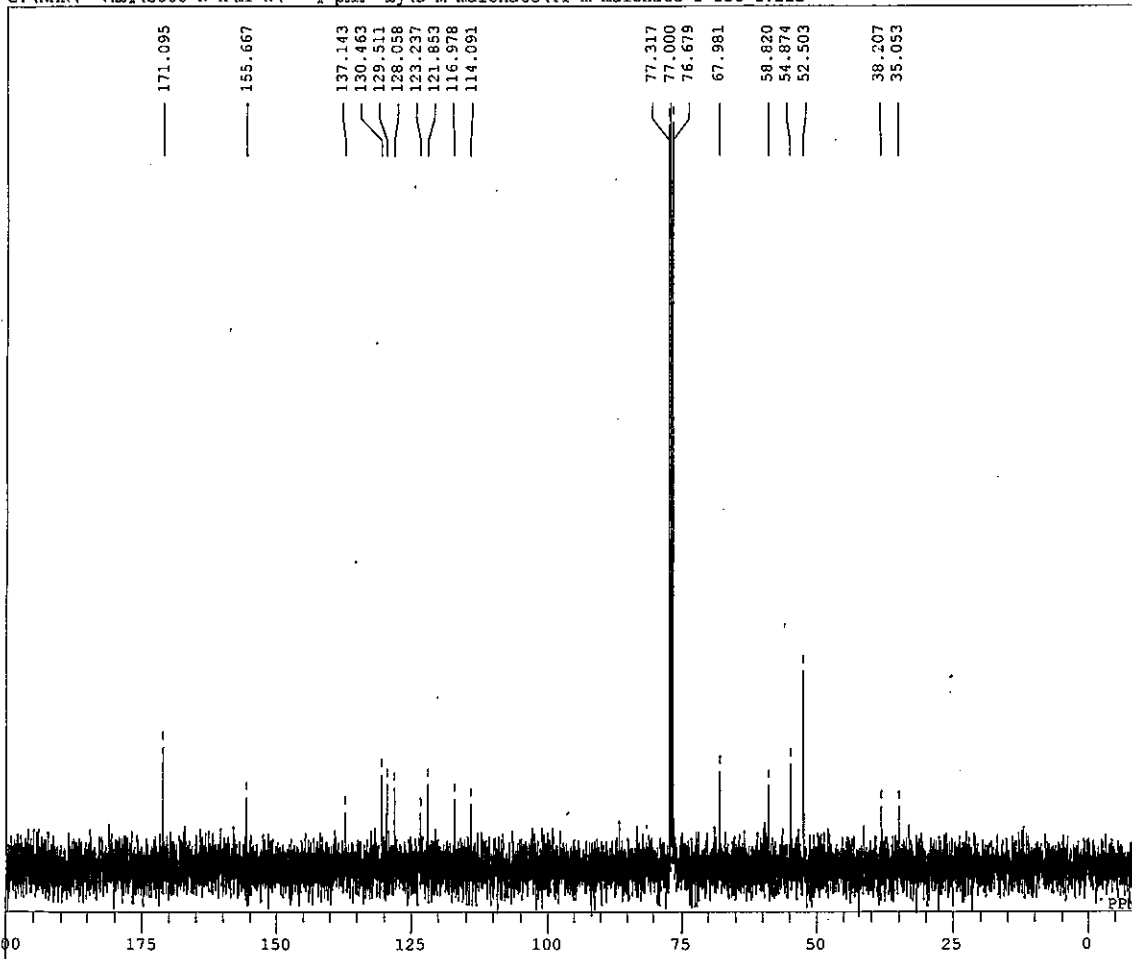
DFILE YI-m-malonate-1-1H_1.als
COMNT YKYI-m-mal-1
DATIM 27-NOV-2008 13:45:30
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 18.6 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 13



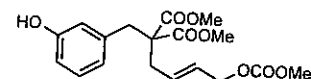
¹H-NMR: 1

YKYI-m-mal-1-13C

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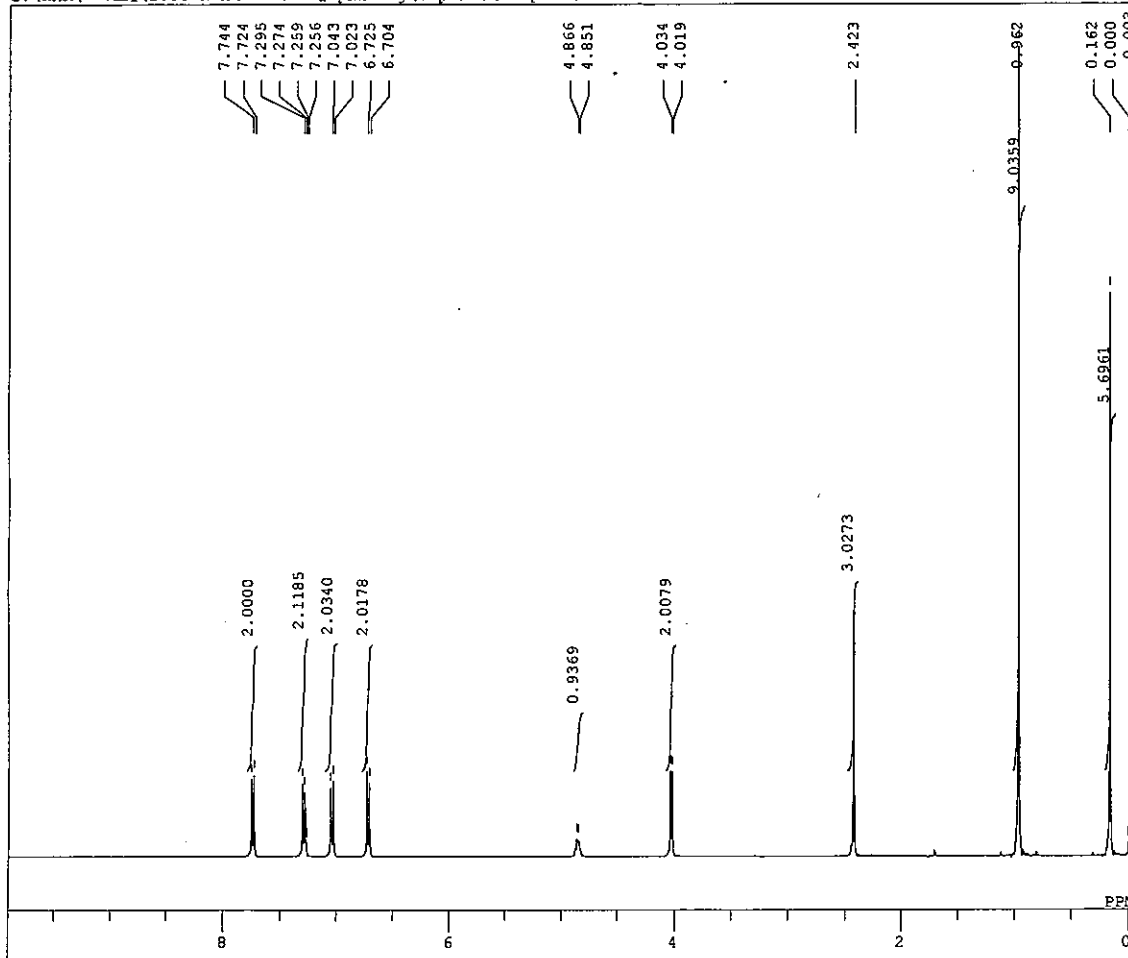
DFILE YI-m-malonate-1-13C_1.als
COMNT YKYI-m-mal-1-13C
DATIM 27-NOV-2008 13:48:58
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 32
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 19.4 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



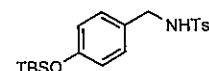
¹³C NMR: 1

YKYI-p-NTs-3-1H

G:\NMR\12<81\2008\N\X\11-N\ - 1-p-NTs\YI-p-NTs-3-1H 1.als



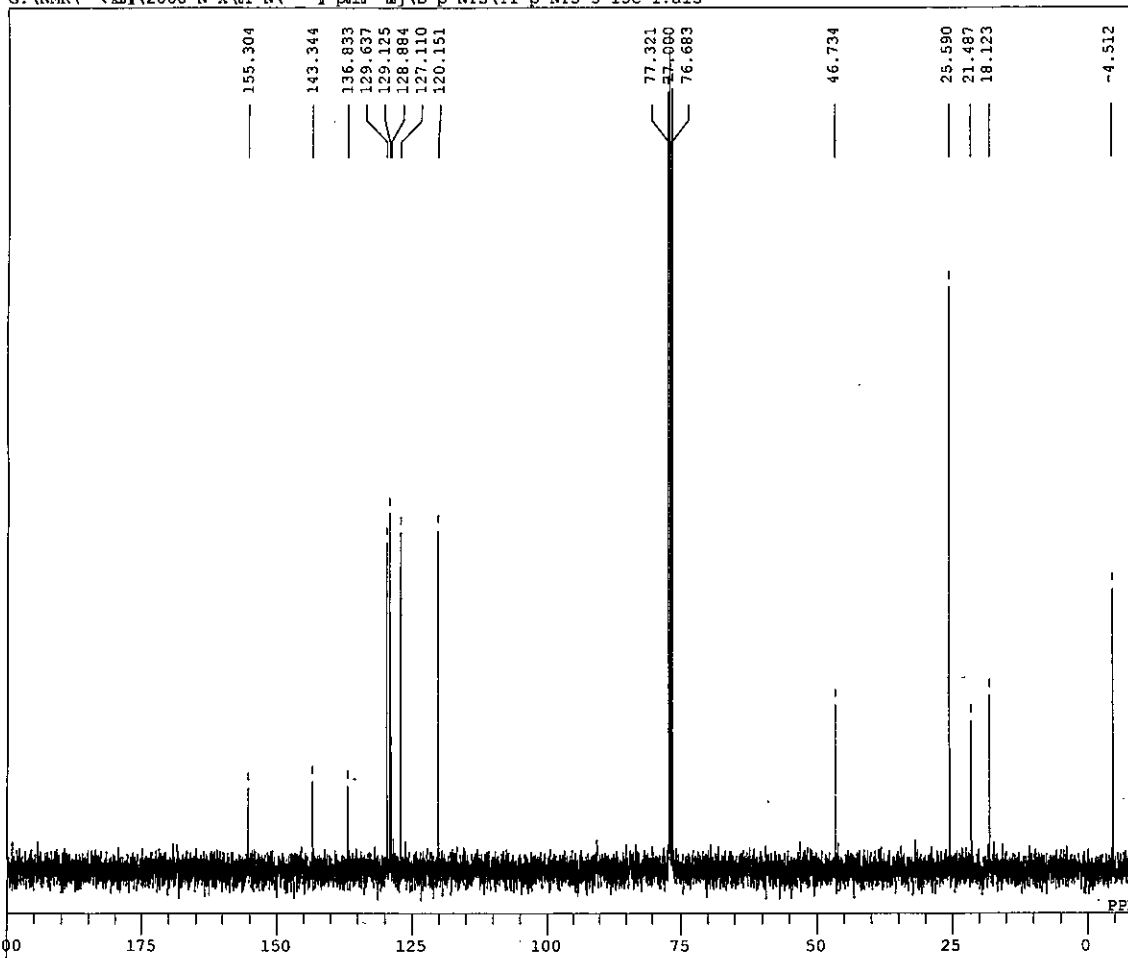
DFILE YI-p-NTs-3-1H 1.als
COMNT KYKI-p-NTs-3-1H
DATIM 8-DEC-2008 12:52:58
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
FW1 6.70 usec
IRNUC 1H
CTEMP 18.5 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



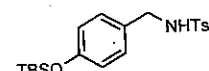
¹H-NMR: S-11

YKYI-p-NTs-3-13C

G:\NMR\12<81\2008\N\X\11-N\ - 1-p-NTs\YI-p-NTs-3-13C 1.als



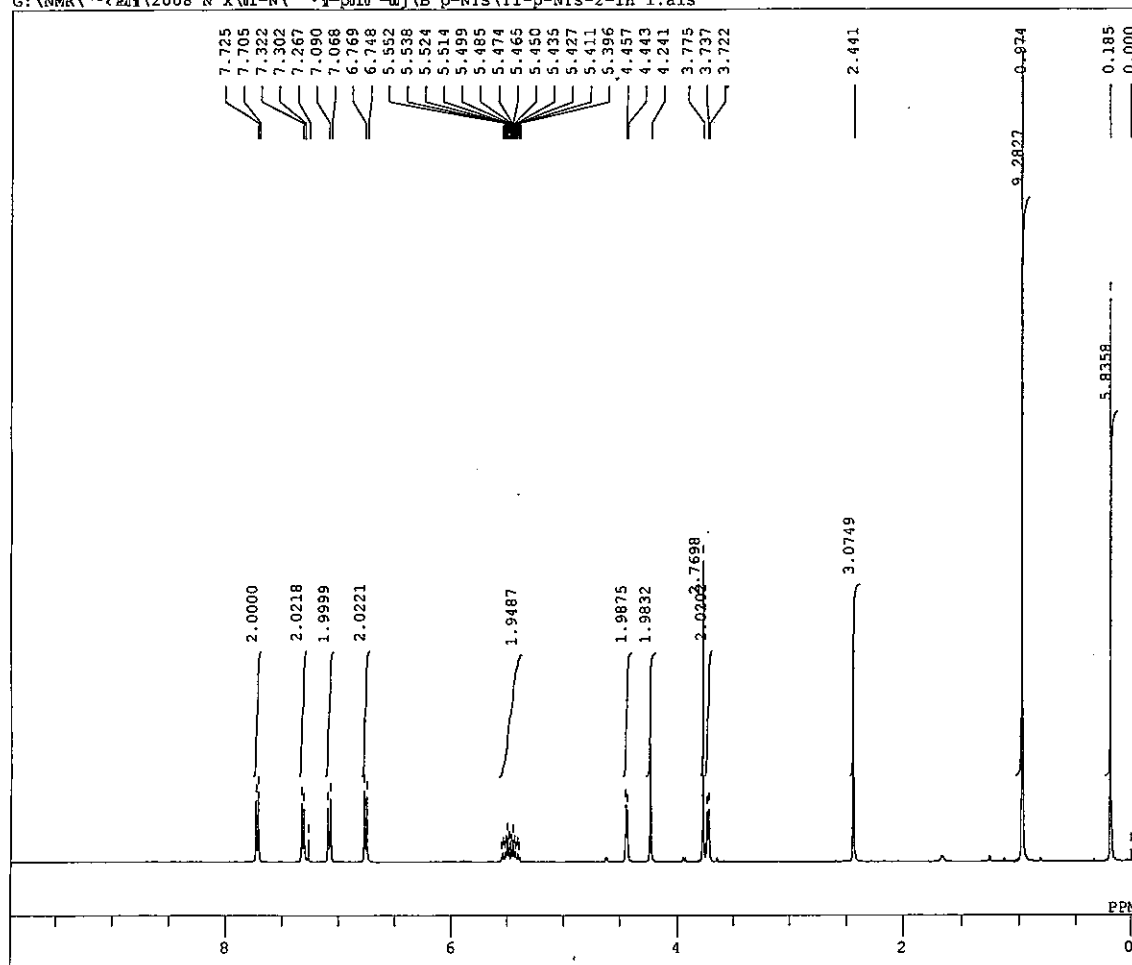
DFILE YI-p-NTs-3-13C 1.als
COMNT KYKI-p-NTs-3-13C
DATIM 8-DEC-2008 13:08:29
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 184
ACQTM 2.6018 sec
PD 1.5000 sec
FW1 3.50 usec
IRNUC 1H
CTEMP 19.8 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



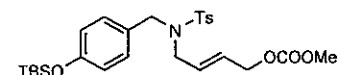
¹³C NMR: S-11

YKYI-p-NTs-2-1H

G:\NMR\12<2008\N\X\YI-N\YI-p-NTs-2-1H 1.als



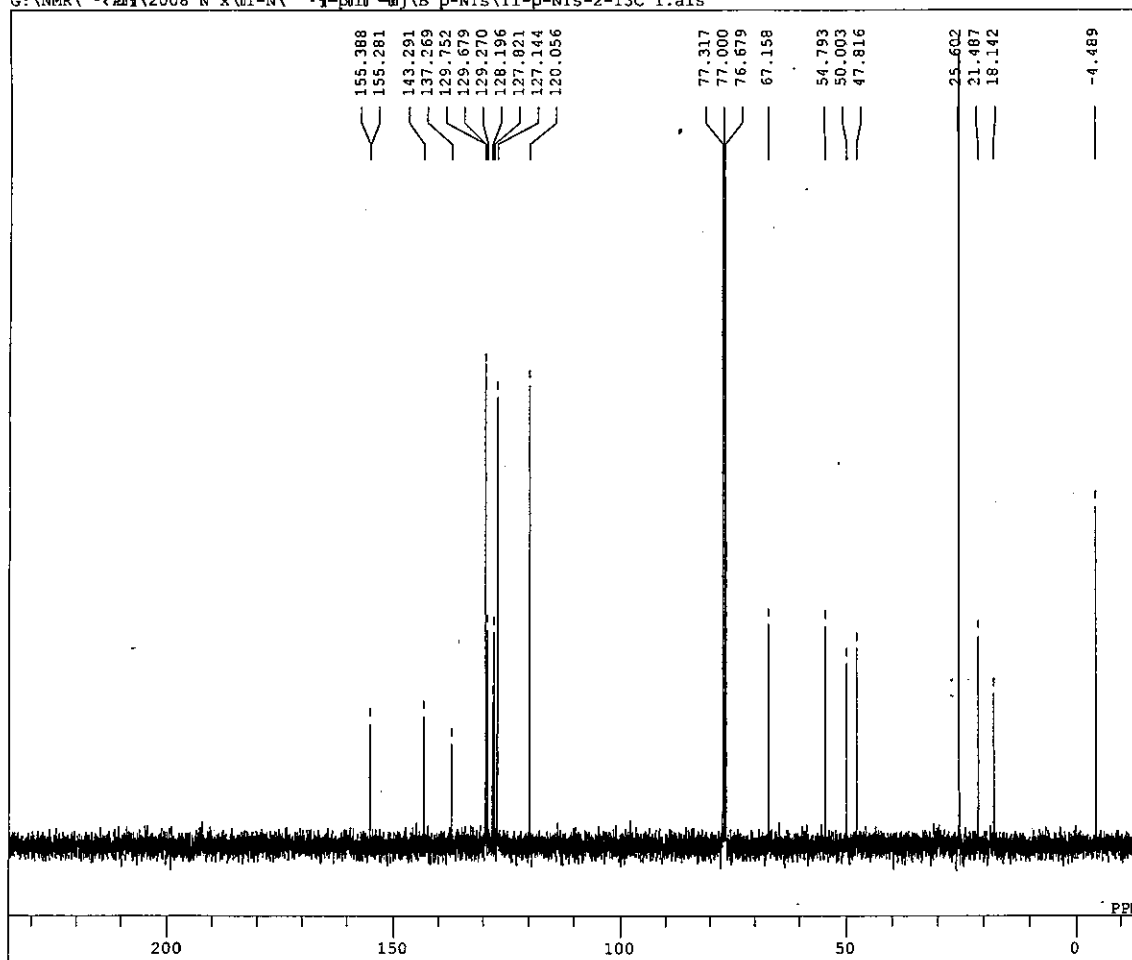
FILE YI-p-NTs-2-1H 1.als
 COMNT YKYI-p-NTs-2-1H
 DATIM 10-DEC-2008 12:40:48
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 18.8 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 12



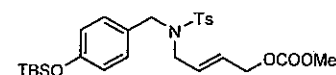
¹H-NMR: S-12

YKYI-NTs-2-13C

G:\NMR\12<2008\N\X\YI-N\YI-p-NTs-2-13C 1.als



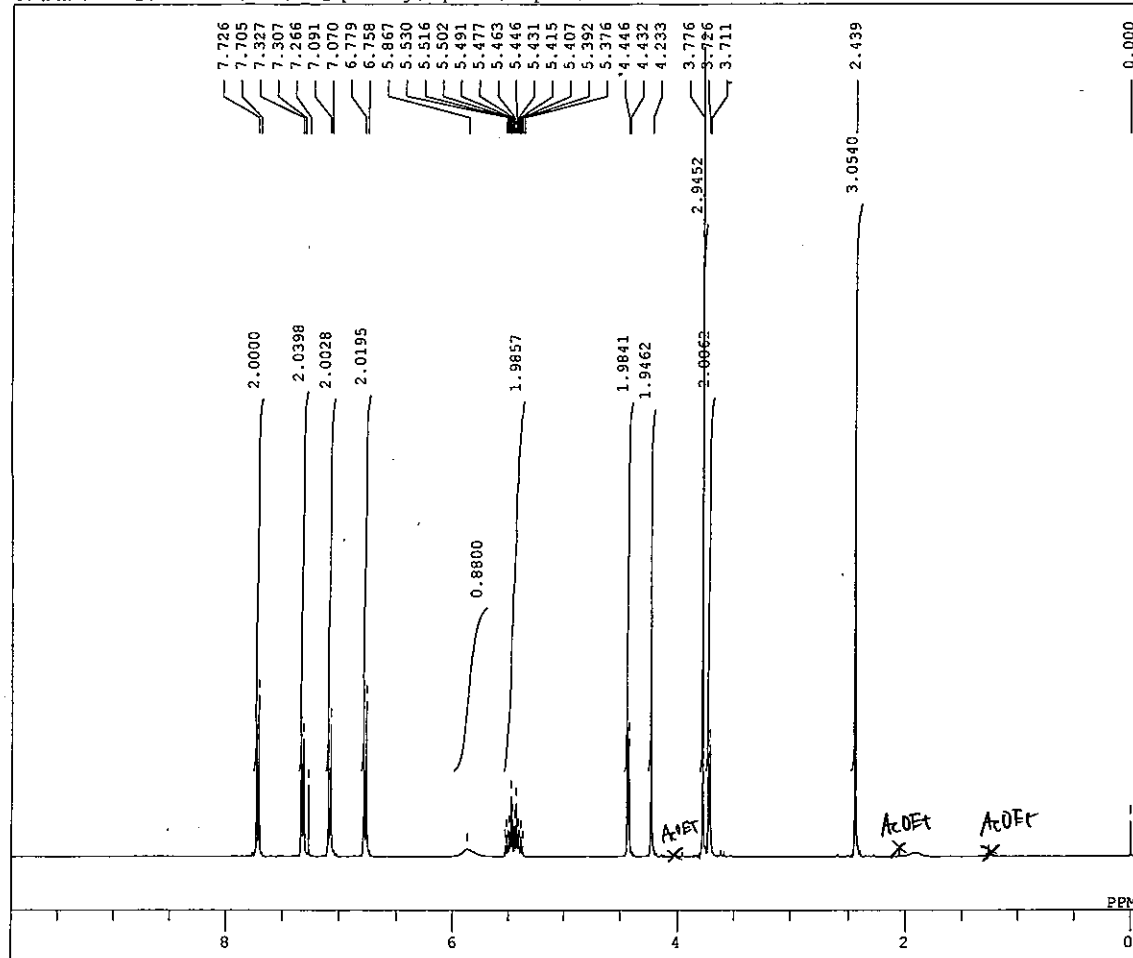
FILE YI-p-NTs-2-13C 1.als
 COMNT YKYI-NTs-2-13C
 DATIM 10-DEC-2008 12:47:57
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 55
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 19.8 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 25



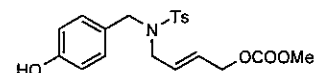
¹³C NMR: S-12

YKYI-p-NTs-1-1H

G:\NMR\12<04\2008"N"x\01-N\ -q-pli0-Uj\B p-NTs\YI-p-NTs-1-1H 1.als

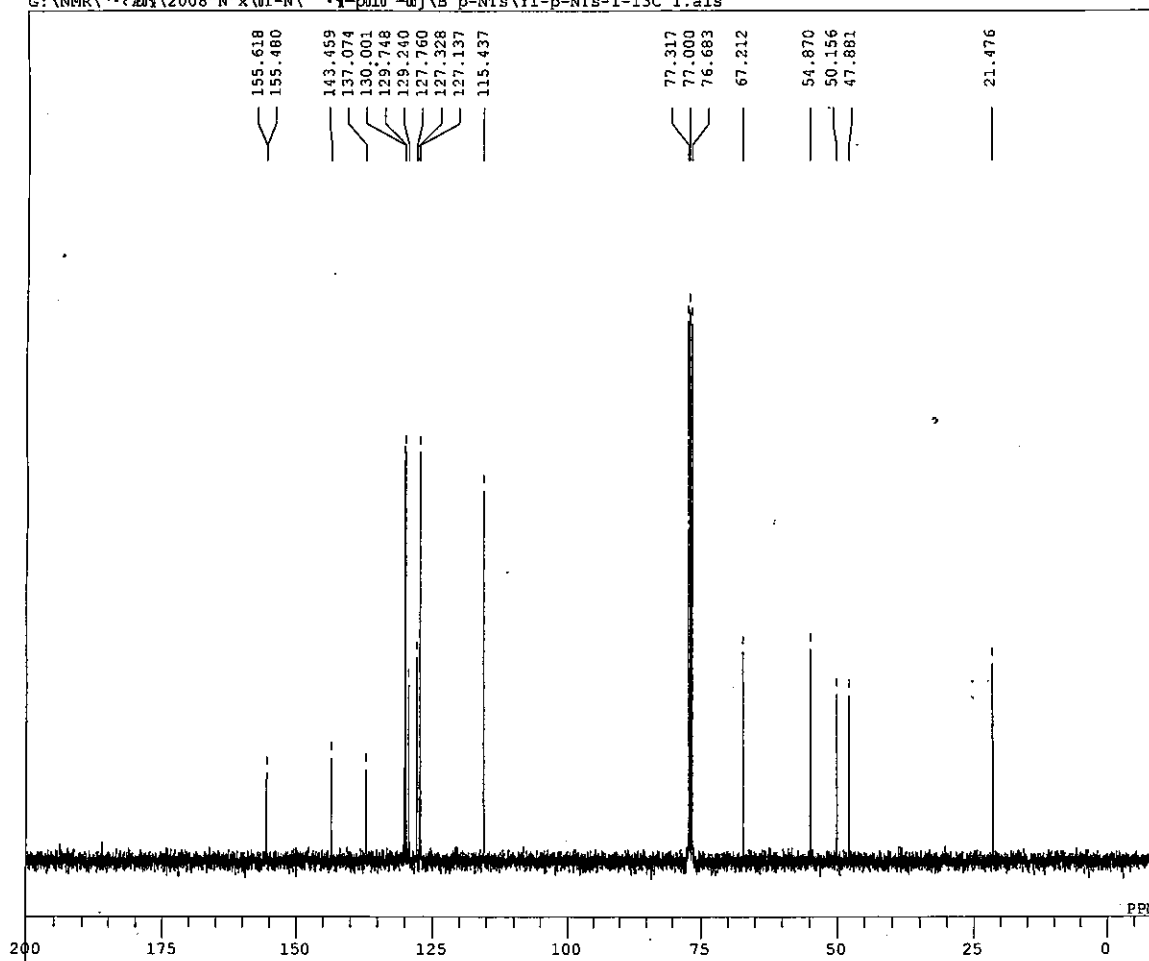


DFILE YI-p-NTs-1-1H 1.als
 COMNT YKYI-p-NTs-1-1H
 DATIM 17-NOV-2008 15:45:52
 OBNUC 1H
 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 13

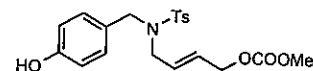
¹H-NMR: 3e

YKYI-p-NTs-1-13C

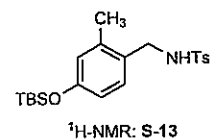
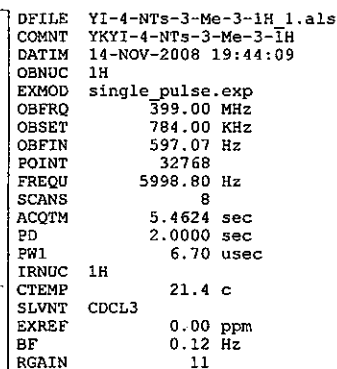
G:\NMR\12<04\2008"N"x\01-N\ -q-pli0-Uj\B p-NTs\YI-p-NTs-1-13C 1.als



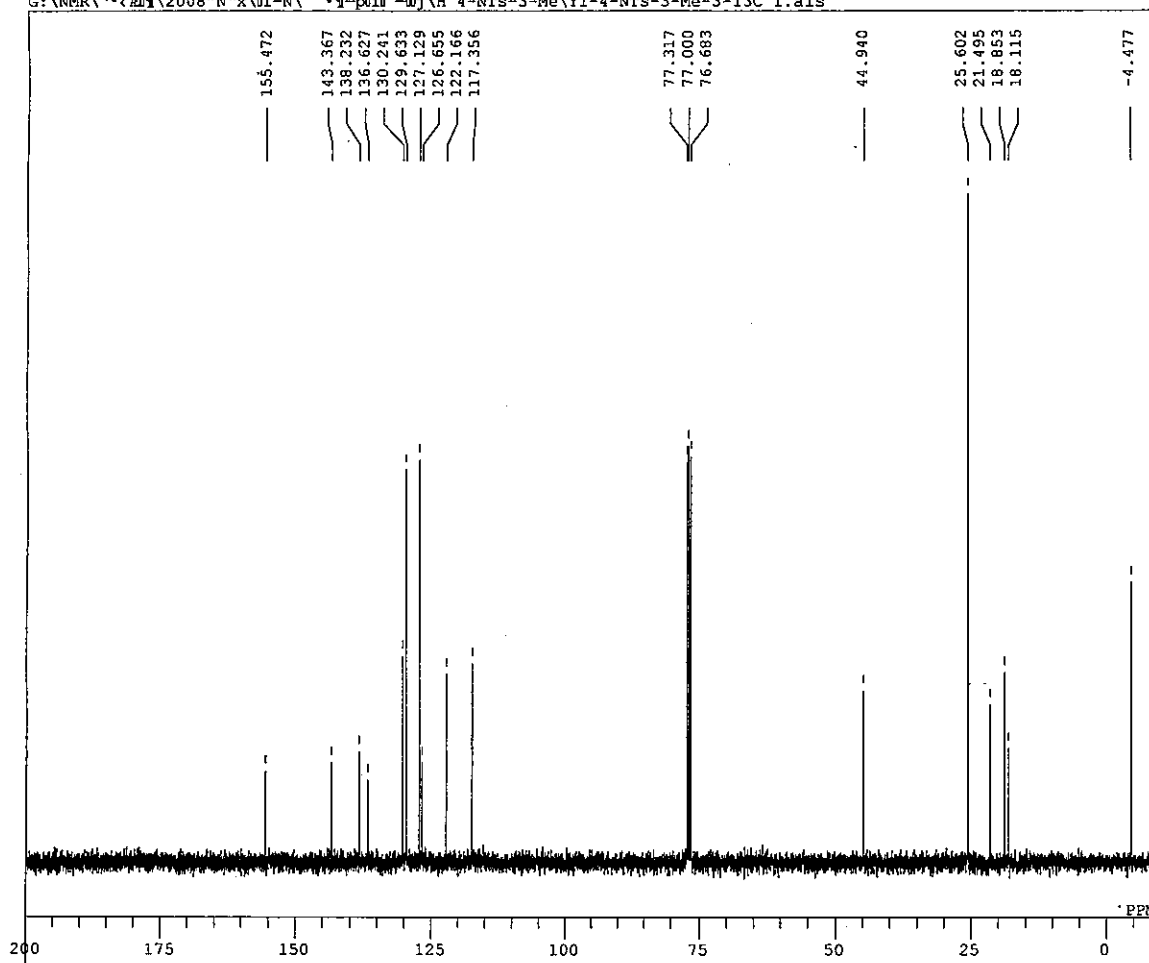
DFILE YI-p-NTs-1-13C 1.als
 COMNT YKYI-p-NTs-1-13C
 DATIM 17-NOV-2008 15:52:26
 OBNUC 13C
 EXMOD single pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 77
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26

¹³C NMR: 3e

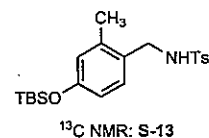
G:\NMR\12<EJ\2008"N"x\0f-N\~ •q-p0i0~-0j\H 4-NTs-3-Me\YI-4-NTs-3-Me-3-1H 1.als



G:\NMR\''~~2008~~\2008"N"x\01-N\~ ·q-p0i11~-0j\H 4-NTs-3-Me\YI-4-NTs-3-Me-3-13C 1.als

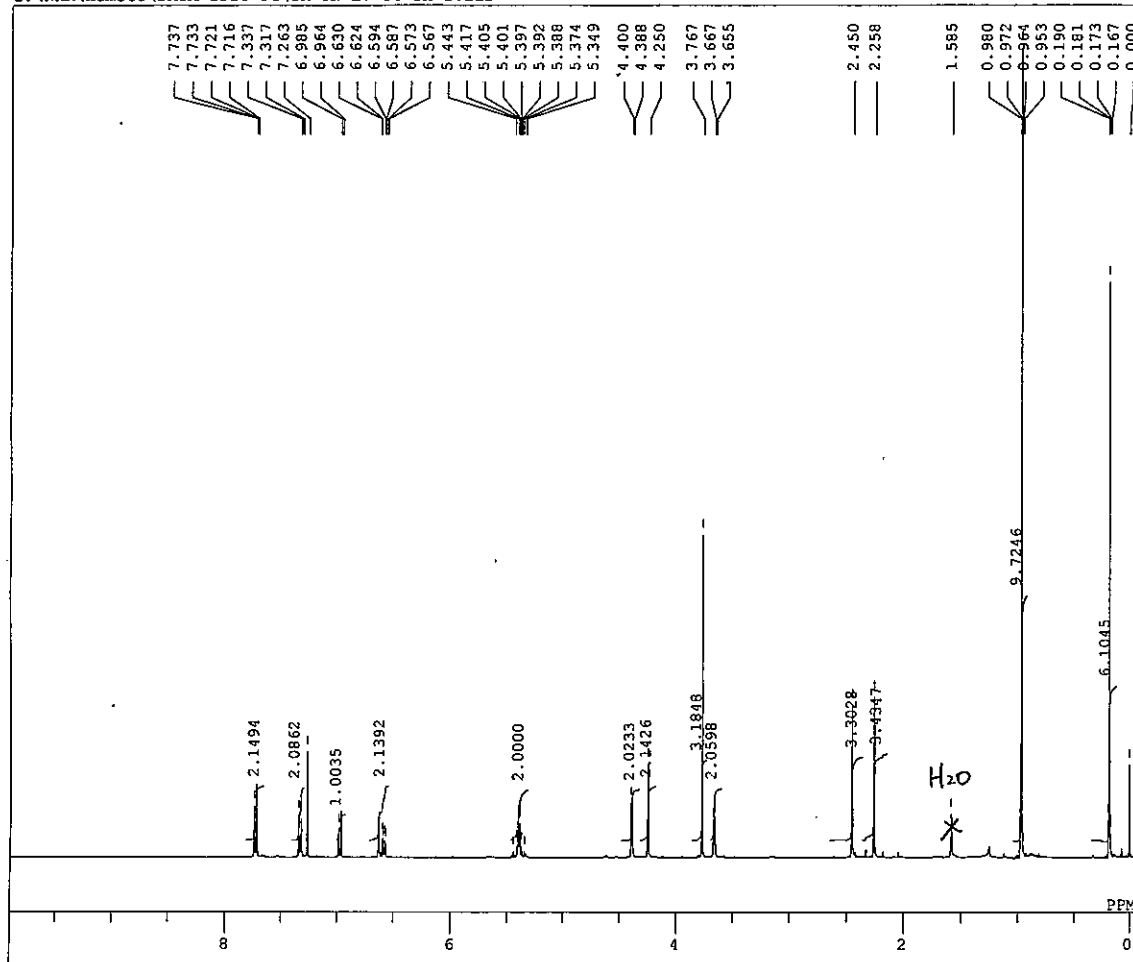


DFILE	YI-4-NTs-3-Me-3-13C_1.als
COMMT	YKYI-4-NTs-3-Me-3-13C
DATIM	14-NOV-2008 19:47:50
OBNUC	13C
EXMOD	single_pulse_dec
OBFRQ	100.00 MHz
OBSET	536.00 KHz
OBFIN	361.11 Hz
POINT	65536
FREQU	25188.92 Hz
SCANS	34
ACQTM	2.6018 sec
PD	1.5000 sec
PWL	3.50 usec
IRNUC	1H
CTEMP	22.5 c
SLVNT	CDCL3
EXREF	77.00 ppm
BF	1.20 Hz
RGAIN	26

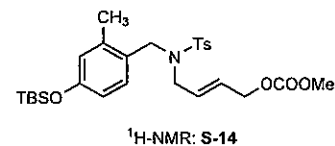


YK-TN-27-04-SM

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-27-04-SM 1.als

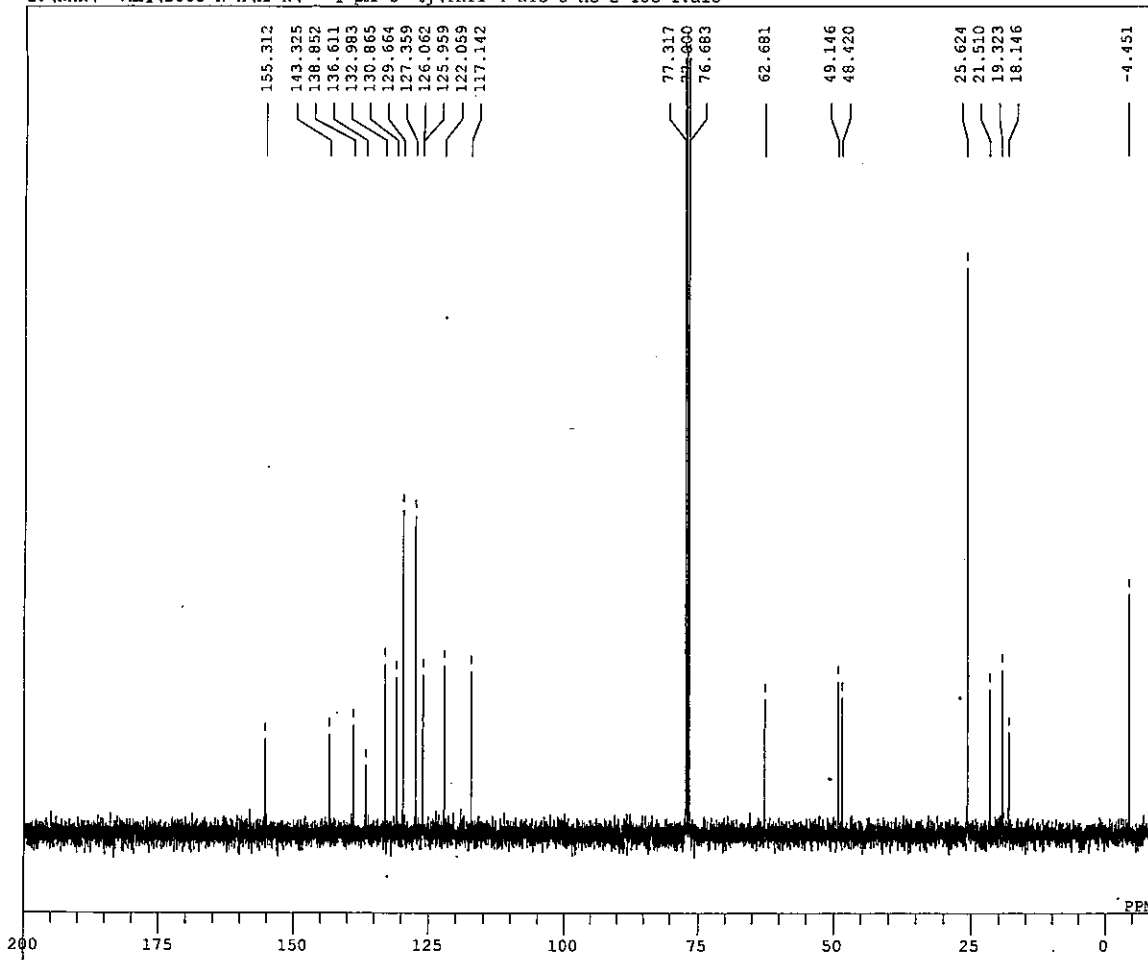


DFILE YK-TN-27-04-SM 1.als
 COMNT YK-TN-27-04-SM
 DATIM 13-JUN-2010 03:32:13
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 7
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PWL 6.85 usec
 IRNUC 1H
 CTEMP 21.6 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 14

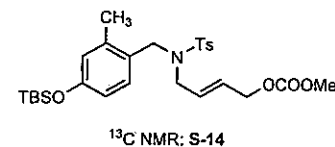


YKYI-4-NTs-3-Me-2-13C

G:\NMR\2008\N\X\01-N\T-pdi-0-Tj\YKYI-4-NTs-3-Me-2-13C 1.als

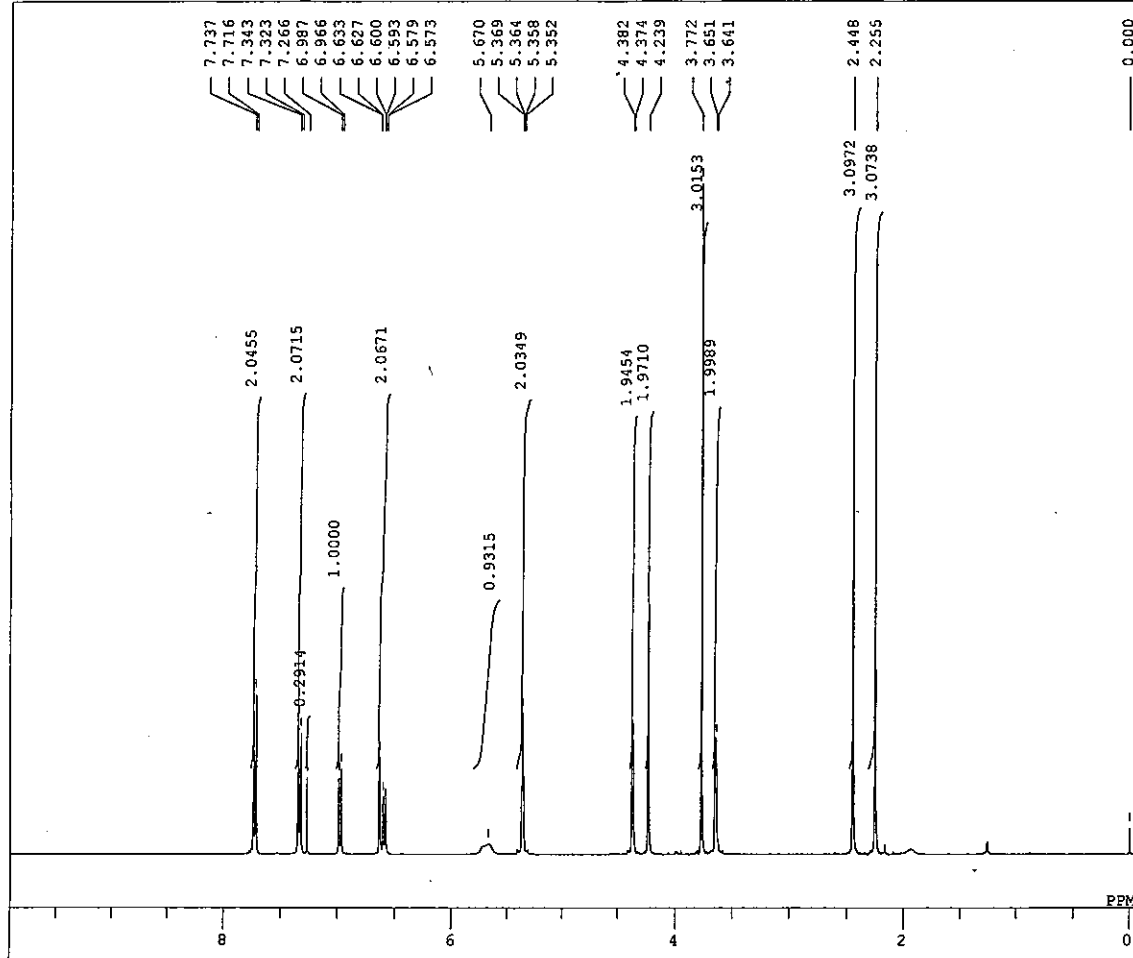


DFILE YKYI-4-NTs-3-Me-2-13C 1.als
 COMNT YKYI-4-NTs-3-Me-2-13C
 DATIM 18-NOV-2008 17:50:14
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 63
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PWL 3.50 usec
 IRNUC 13C
 CTEMP 22.6 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26

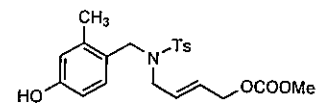


YKYI-4-NTs-3-Me-1-1H

G:\NMR\12<2008\N"x\01-N\ - 4-pil\H 4-NTs-3-Me\YI-4-NTs-3-Me-1-1H 1.als



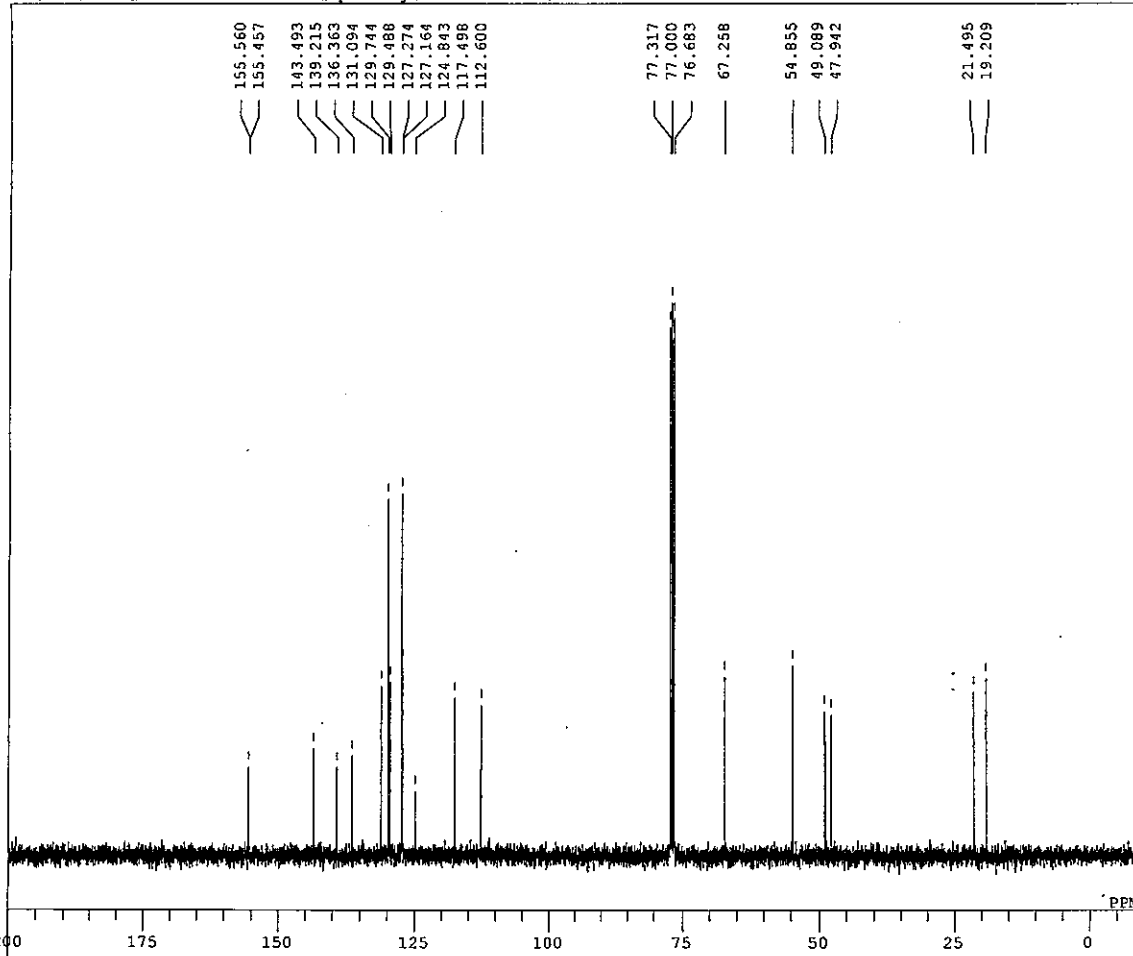
DFILE YI-4-NTs-3-Me-1-1H 1.als
COMNT YKYI-4-NTs-3-Me-1-1H
DATIM 18-NOV-2008 17:33:49
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 20.9 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 13



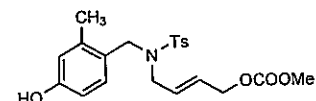
¹H-NMR: 3i

YKYI-4-NTs-3-Me-1-13C

G:\NMR\12<2008\N"x\01-N\ - 4-pil\H 4-NTs-3-Me\YI-4-NTs-3-Me-1-13C 1.als



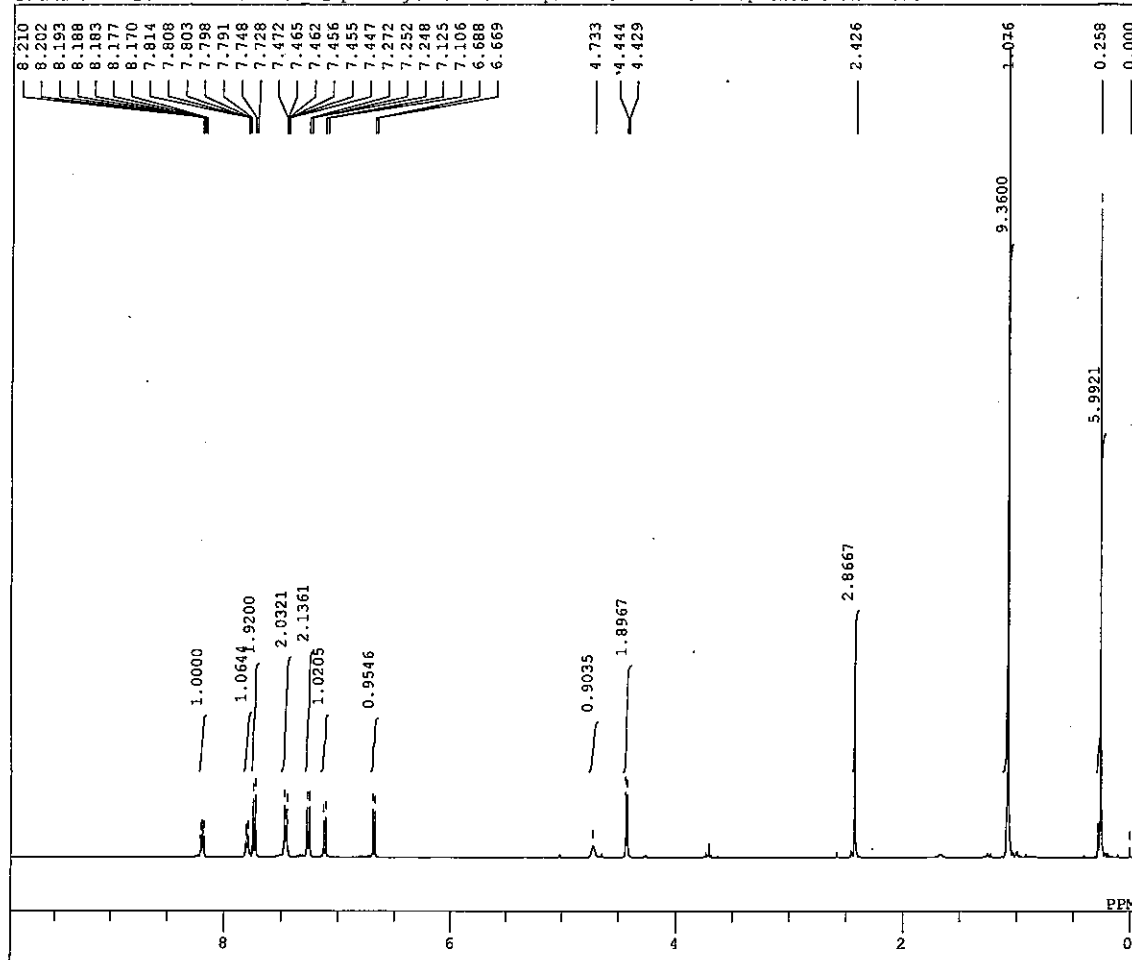
DFILE YI-4-NTs-3-Me-1-13C 1.als
COMNT YKYI-4-NTs-3-Me-1-13C
DATIM 18-NOV-2008 17:40:43
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 58
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 22.4 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



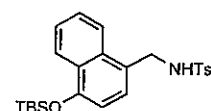
¹³C NMR: 3i

YKYI-1-NTs-4-nap-3-1H

G:\NMR\2008\N\X\I-N\ -q-pil-Mj\I 4-NTs-1-naphthol\YI-4-NTs-1-naphthol-3-1H 1.als



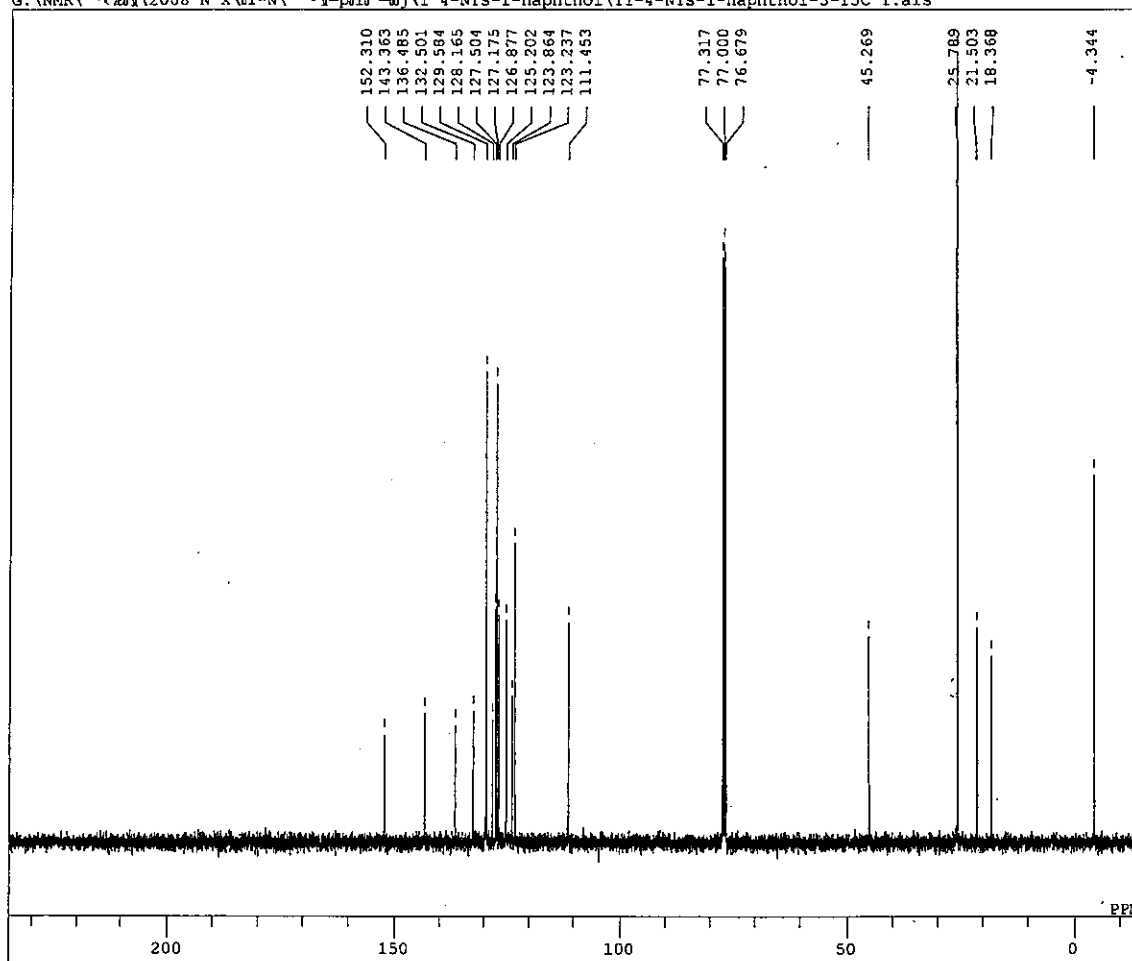
DFILE YI-4-NTs-1-naphthol-3-1H_1.
COMNT YKYI-1-NTs-4-nap-3-1H
DATIM 3-DEC-2008 18:57:26
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 18.5 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



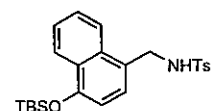
¹H-NMR: S-15

YKYI-1-NTs-4-nap-3-13C

G:\NMR\2008\N\X\I-N\ -q-pil-Mj\I 4-NTs-1-naphthol\YI-4-NTs-1-naphthol-3-13C 1.als



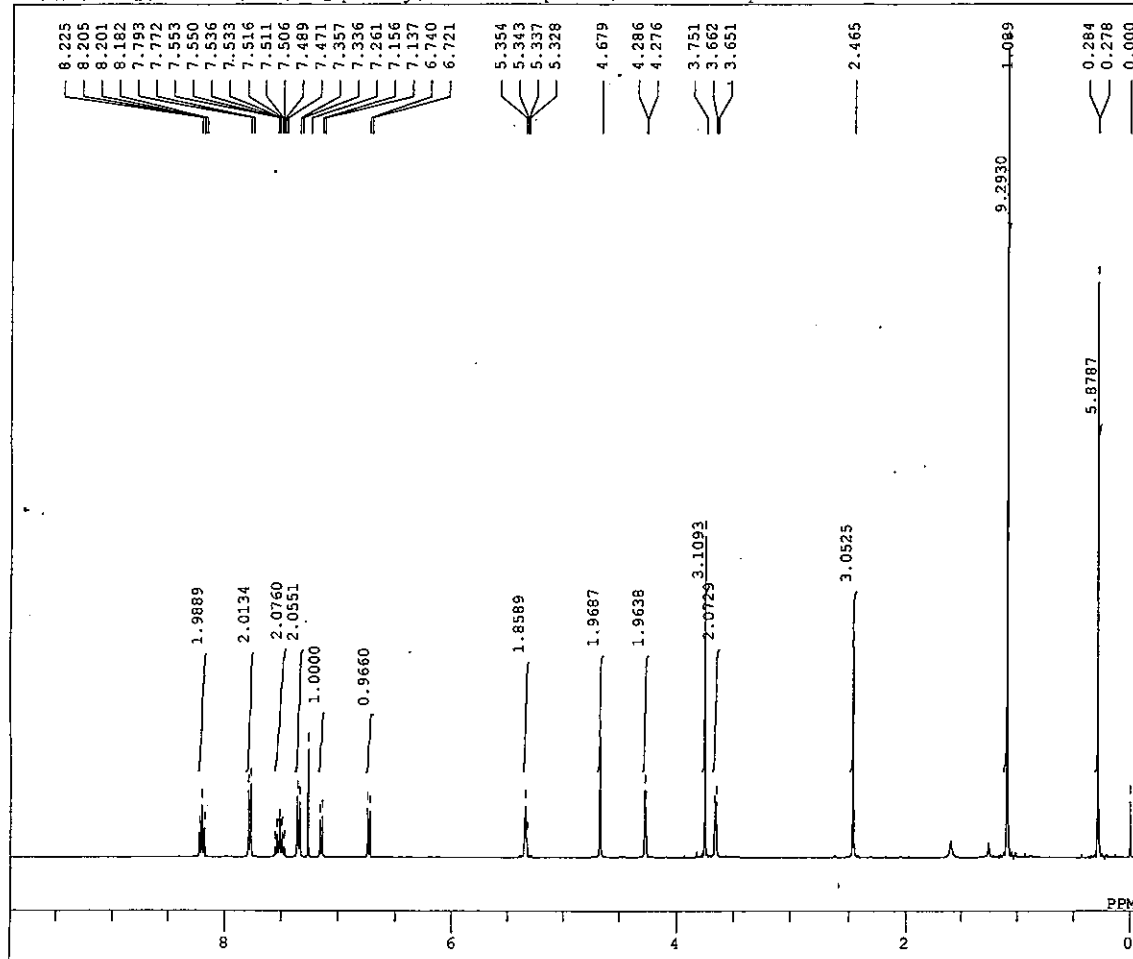
DFILE YI-4-NTs-1-naphthol-3-13C_1
COMNT YKYI-1-NTs-4-nap-3-13C
DATIM 5-DEC-2008 19:08:41
OBNUC 13C
EXMOD single pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 98
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 19.9 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



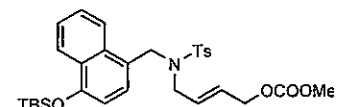
¹³C NMR: S-15

YKYI-1-NTs-4-nap-2-1H

G:\NMR\2008\N\X\YI-NTs-4-nap-2-1H\YI-4-NTs-1-naphthol\YI-4-NTs-1-naphthol-2-1H 1.als



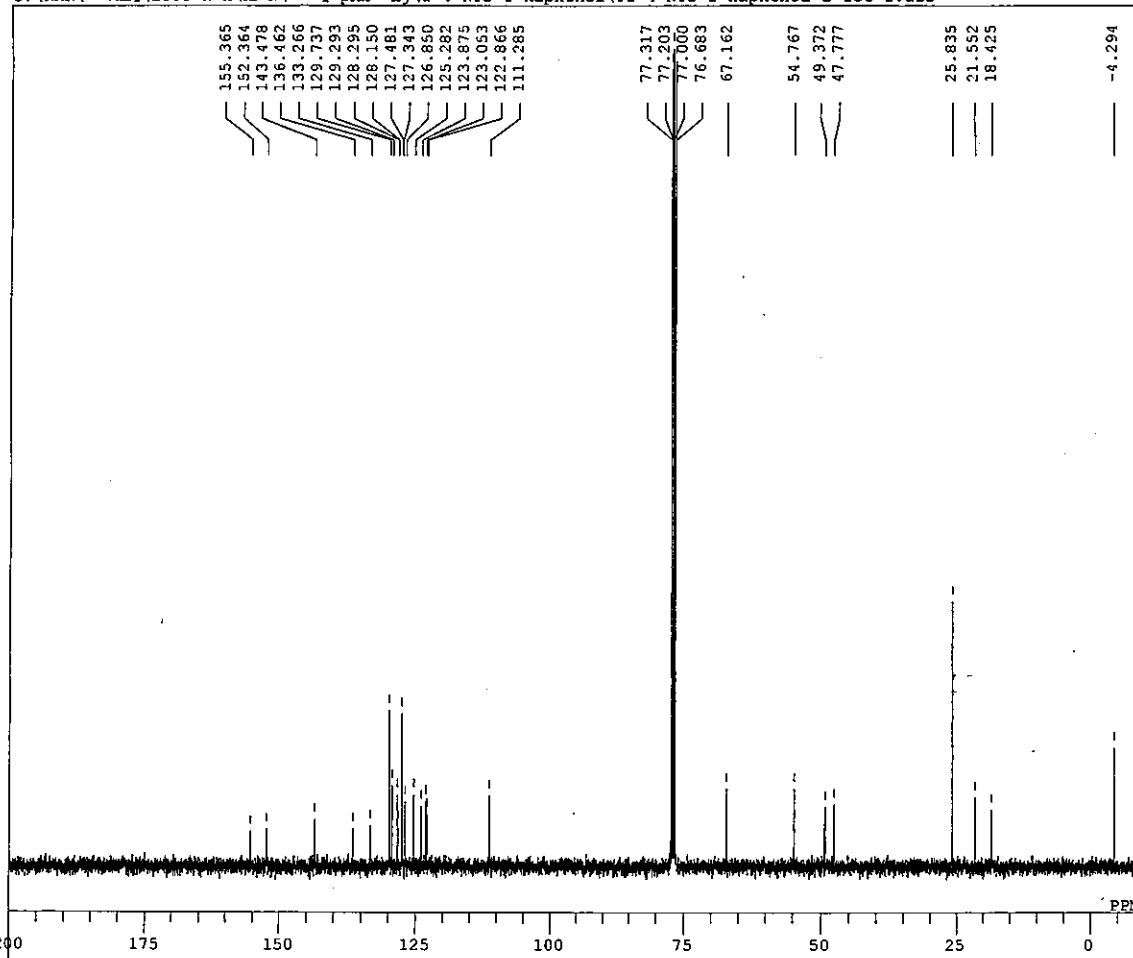
DFILE YI-4-NTs-1-naphthol-2-1H_1.als
COMNT YKYI-1-NTs-4-nap-2-1H
DATIM 3-DEC-2008 19:22:45
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 18.4 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 16



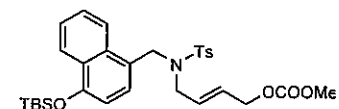
¹H-NMR: S-16

YKYI-1-NTs-4-nap-2-13C

G:\NMR\2008\N\X\YI-NTs-4-nap-2-13C\YI-4-NTs-1-naphthol\YI-4-NTs-1-naphthol-2-13C 1.als



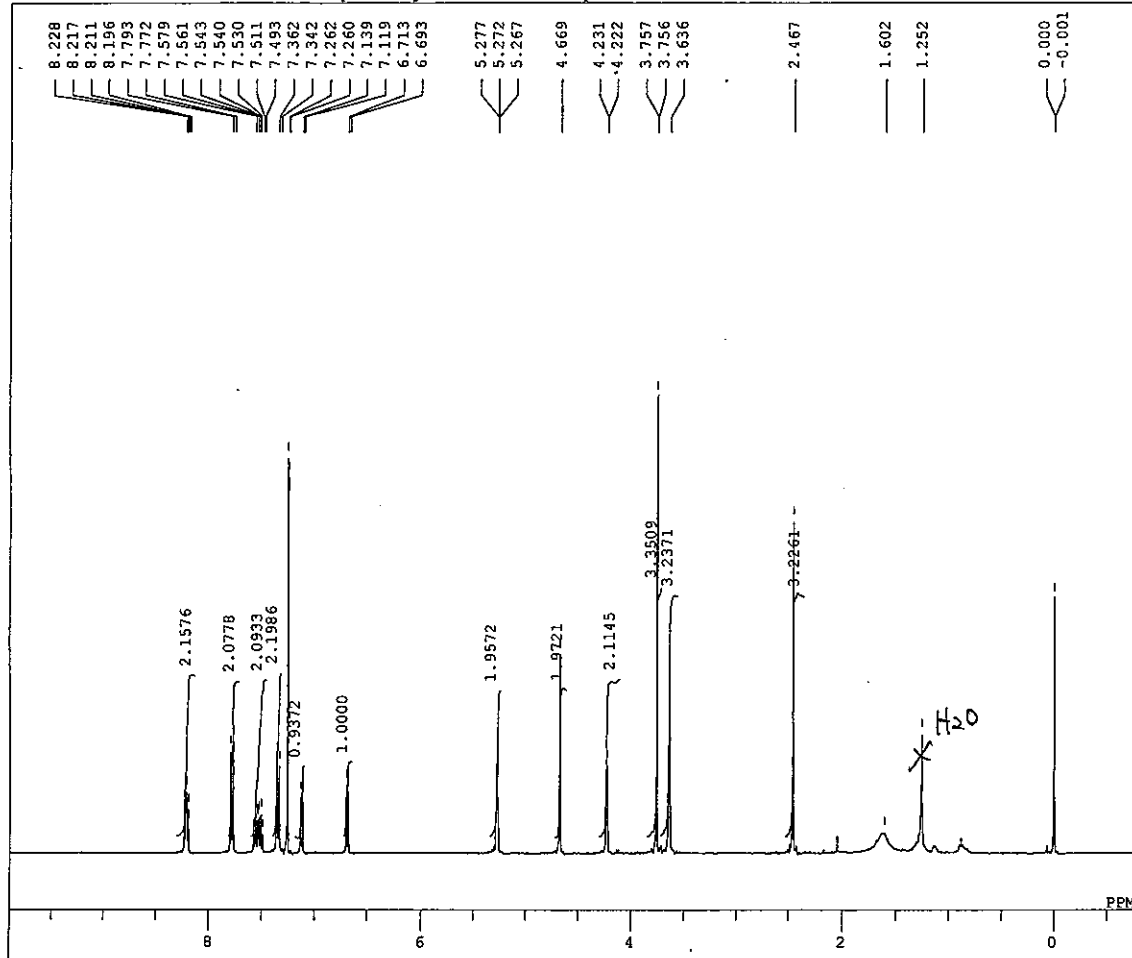
DFILE YI-4-NTs-1-naphthol-2-13C_1
COMNT YKYI-1-NTs-4-nap-2-13C
DATIM 5-DEC-2008 19:30:01
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 200
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 19.9 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



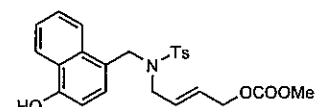
¹³C NMR: S-16

YKYI-1-NTs-4-nap-1-1H

G:\NMR\12.01\2008\N\X\1-NTs-4-nap-1-1H\YKYI-1-NTs-4-nap-1-1H 1.als



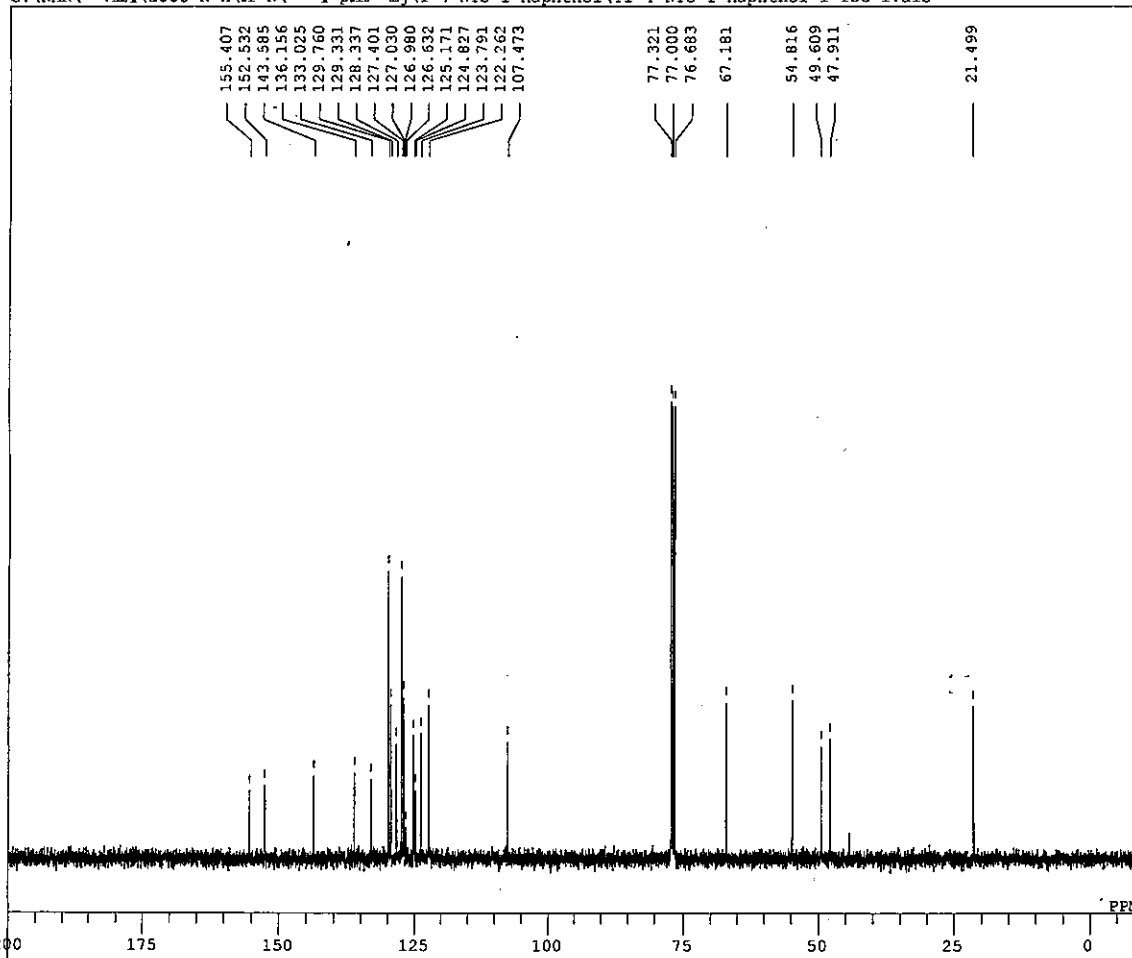
DFILE YKYI-1-NTs-4-nap-1-1H 1.als
COMNT YKYI-1-NTs-4-nap-1-1H
DATIM 18-NOV-2008 17:54:45
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 21.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 21



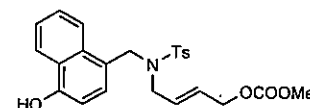
¹H-NMR: 3j

YKYI-10-751-13C

G:\NMR\12.01\2008\N\X\1-NTs-4-nap-1-1H\YKYI-10-751-13C 1.als



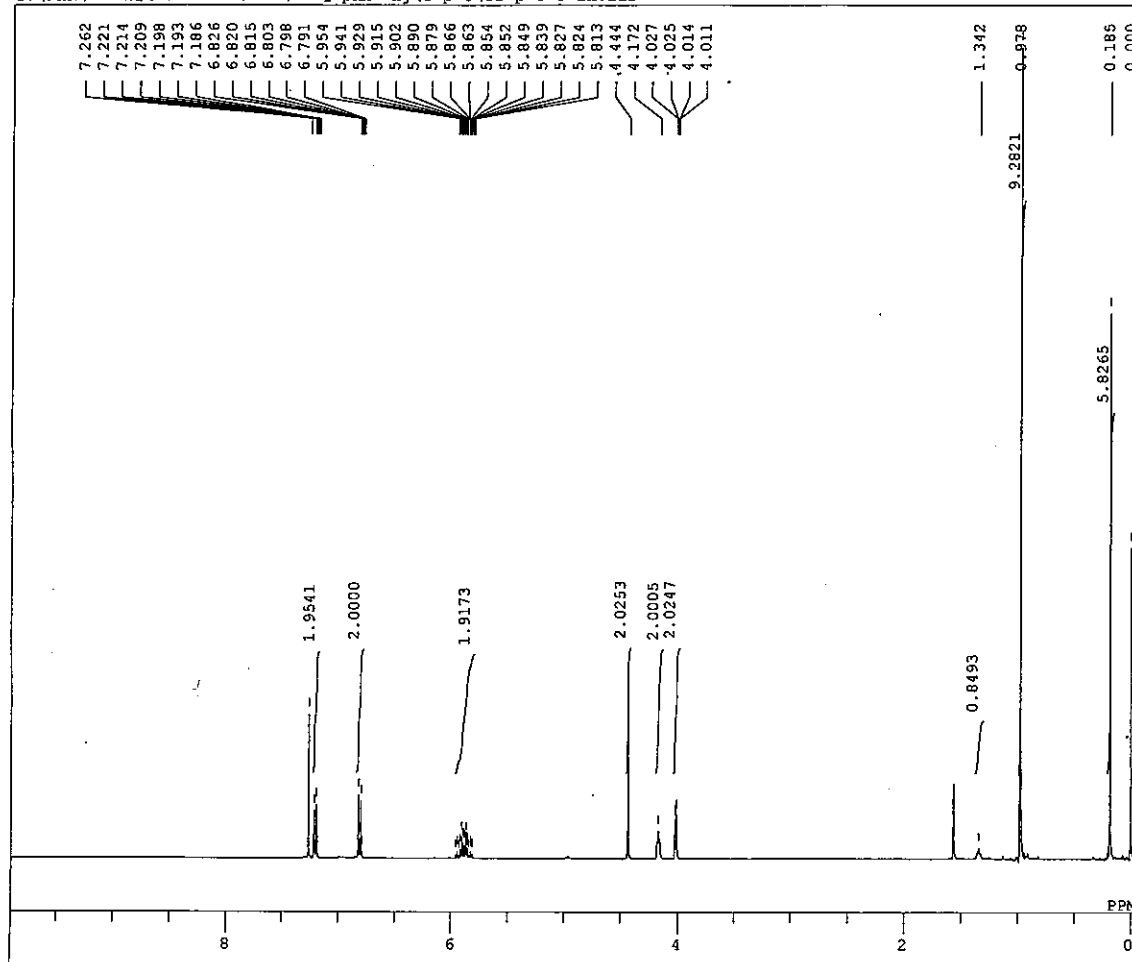
DFILE YI-4-NTs-1-naphthol-1-13C_1
COMNT YKYI-10-751-13C
DATIM 24-MAR-2009 10:41:33
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 95
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 23.2 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 27



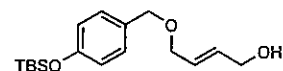
¹³C NMR: 3j

YKYI-06-478-3

G:\NMR\2008\N\X\YI-S\1-p-0\YI-p-O-3-1H.als

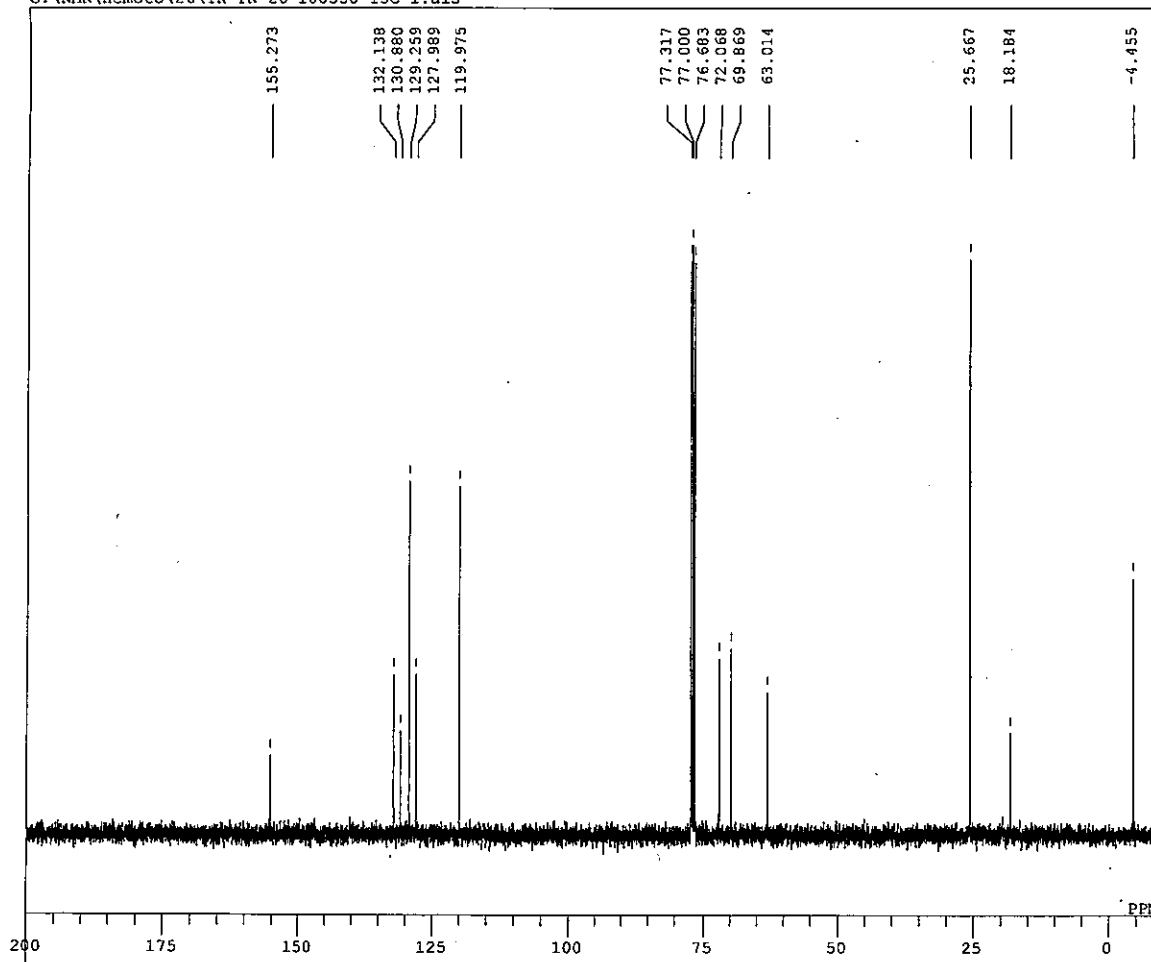


DFILE YI-p-O-3-1H.als
 COMNT YKYI-06-478-3
 DATIM 5-AUG-2008 14:07:02
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 20.8 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 22

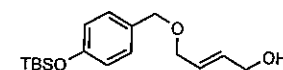
¹H-NMR: S-17

YK-TN-26-100530-13C

G:\NMR\nemoto\26\YK-TN-26-100530-13C 1.als

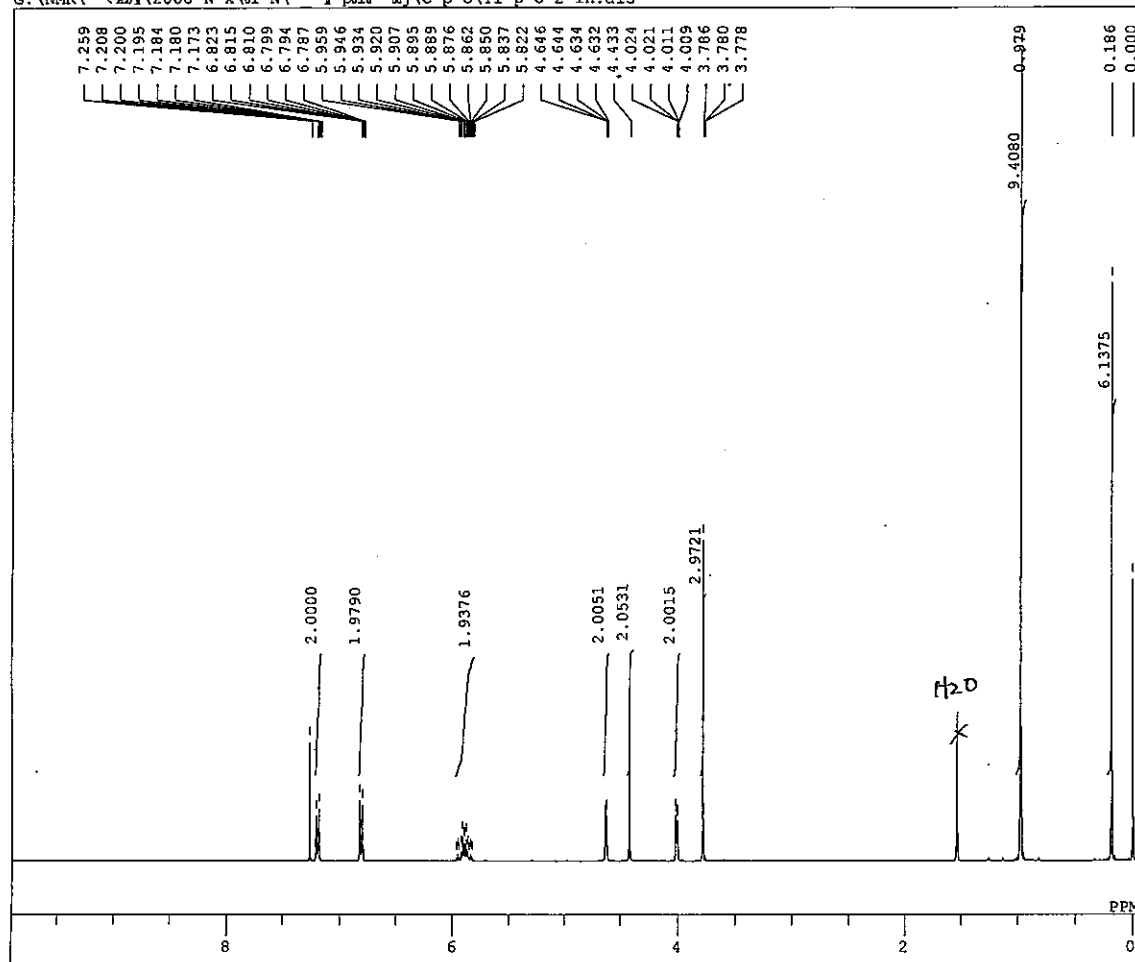


DFILE YK-TN-26-100530-13C 1.als
 COMNT YK-TN-26-100530-13C
 DATIM 31-MAY-2010 04:12:31
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 69
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 28.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 25

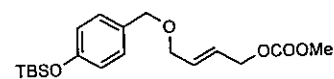
¹³C NMR: S-17

YKYI-07-486

G:\NMR\12<81\2008"N"x\01-N\~ *q-pd11~0j\C p-O\YI-p-O-2-1H.als

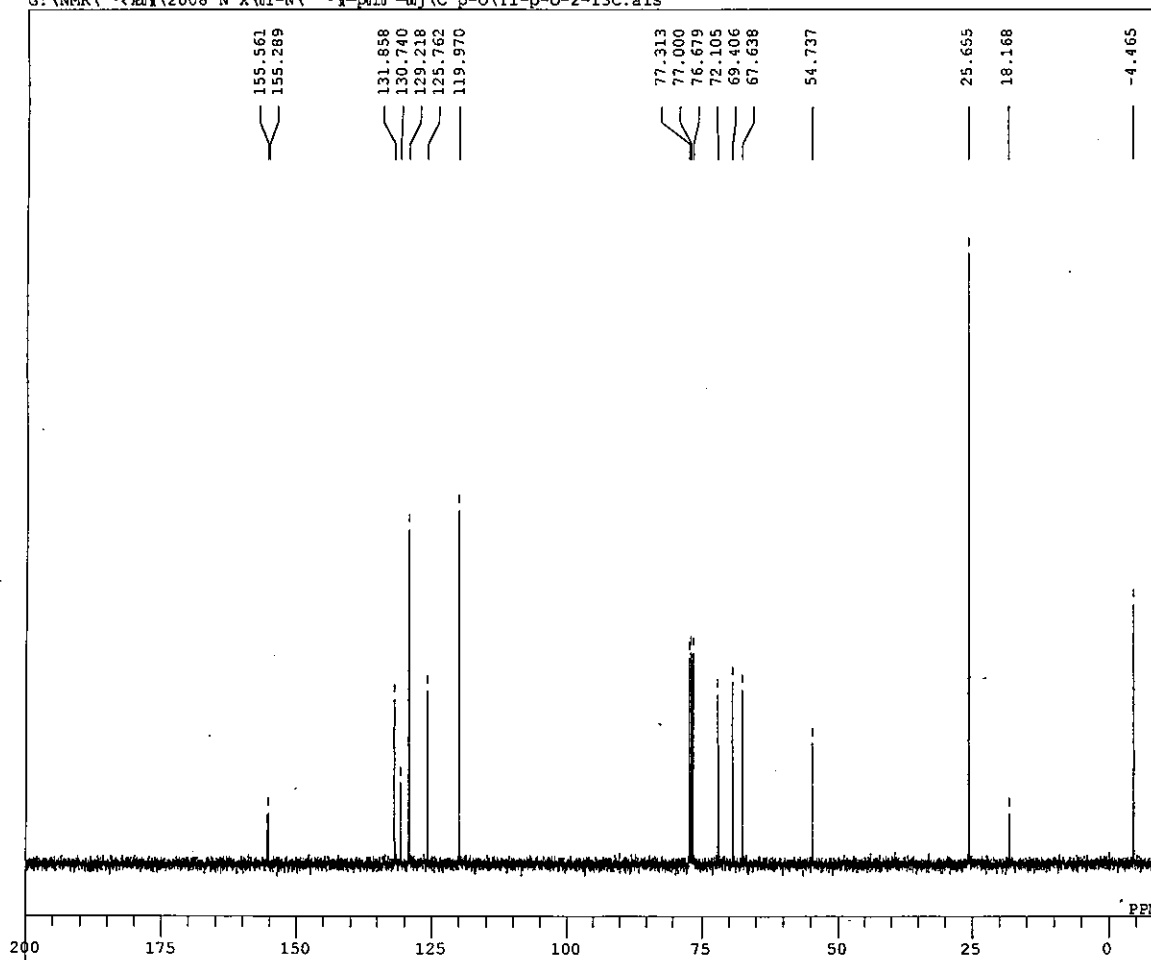


DFILE YI-p-O-2-1H.als
 COMNT KYKI-07-486
 DATIM 1H
 OBNUC SINGL-NON
 EXMOD 399.65 MHz
 OBFRQ 130.00 KHz
 OBSET 4500.00 Hz
 OBFIN 32768
 POINT 7993.60 Hz
 FREQU 8
 SCANS 4.0993 sec
 ACQTM 2.5000 sec
 PD 4.00 usec
 PW1 1H
 IRNUC 28.4 c
 CTEMP CDCL3
 SLVNT 0.00 ppm
 EXREF 0.12 Hz
 BF 23
 RGAIN

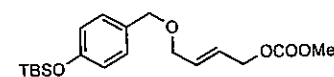
¹H-NMR: S-18

YKYI-07-486-13C

G:\NMR\12<81\2008"N"x\01-N\~ *q-pd11~0j\C p-O\YI-p-O-2-13C.als

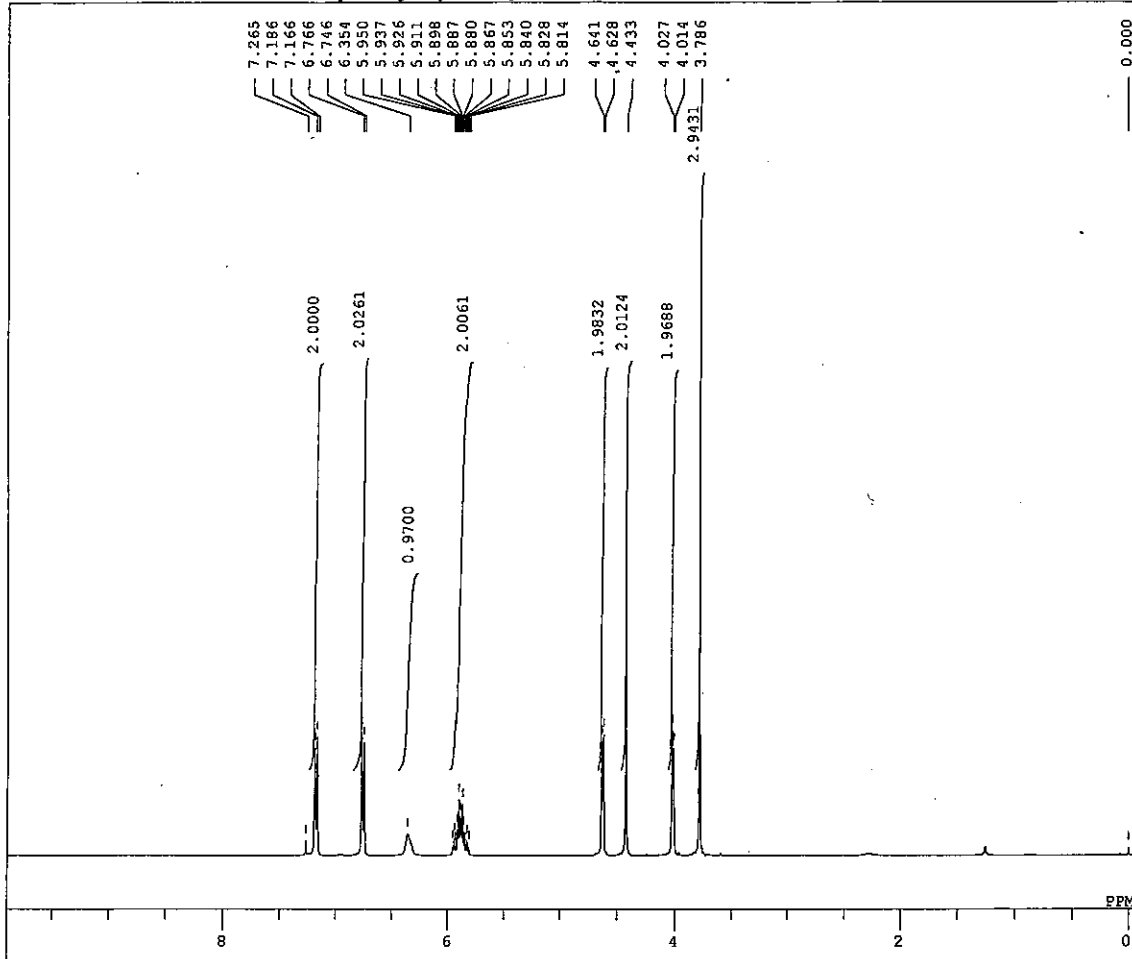


DFILE YI-p-O-2-13C.als
 COMNT KYKI-07-486-13C
 DATIM 13C
 OBNUC SINGL-BCM
 EXMOD 100.40 MHz
 OBFRQ 130.00 KHz
 OBSET 5500.00 Hz
 OBFIN 32768
 POINT 27100.27 Hz
 FREQU 65
 SCANS 1.2091 sec
 ACQTM 2.0000 sec
 PD 4.90 usec
 PW1 1H
 IRNUC 29.0 c
 CTEMP CDCL3
 SLVNT 77.00 ppm
 EXREF 1.20 Hz
 BF 23
 RGAIN

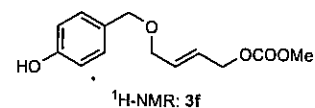
¹³C NMR: S-18

YKYI-p-O-1-1H

G:\NMR\12<EY\2008"N"x\01-N\~ .q-pli0~0j\C p-O\YI-p-O-1-1H 1.als

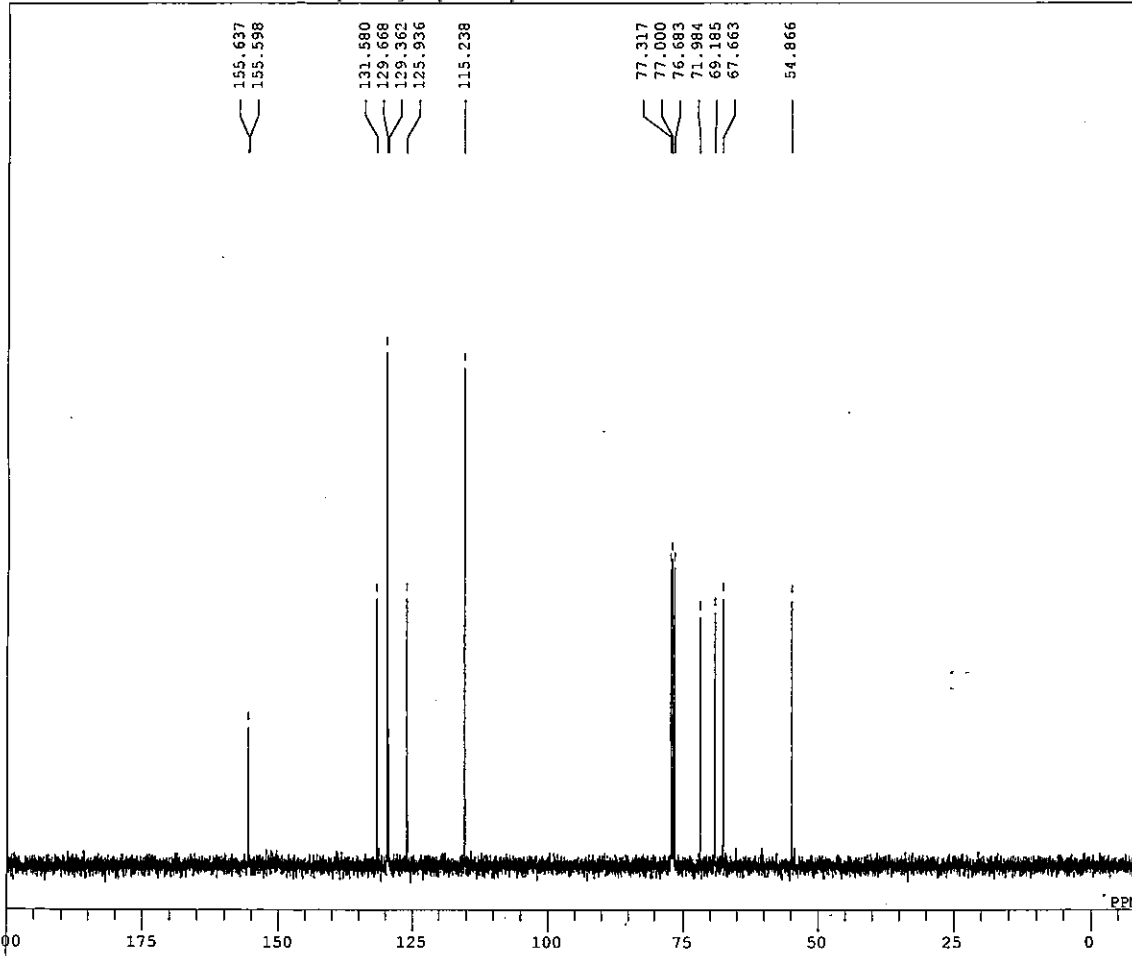


DFILE YI-p-O-1-1H 1.als
COMNT KYKI-p-O-1-1H
DATIM 5-MAR-2009 16:13:07
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 18.2 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9

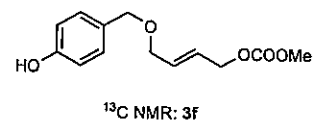


YKYI-p-O-1-13C

G:\NMR\12<EY\2008"N"x\01-N\~ .q-pli0~0j\C p-O\YI-p-O-1-13C 1.als

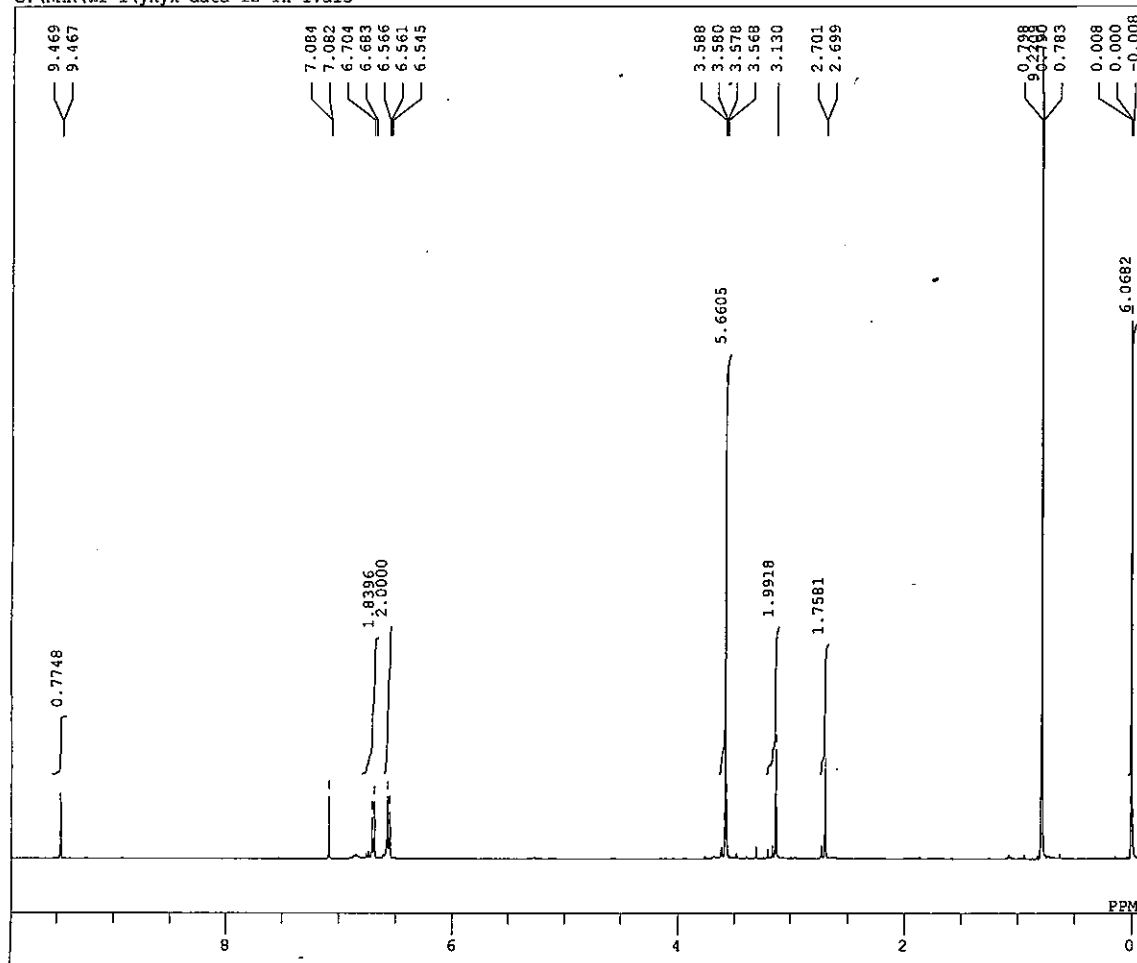


DFILE YI-p-O-1-13C 1.als
COMNT KYKI-p-O-1-13C
DATIM 5-MAR-2009 16:16:21
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 19
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 18.7 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 25

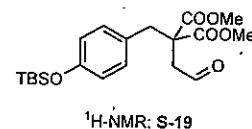


ykyk-data-f2-1h

G:\NMR\%i-1\ykyk-data-f2-1h 1.als

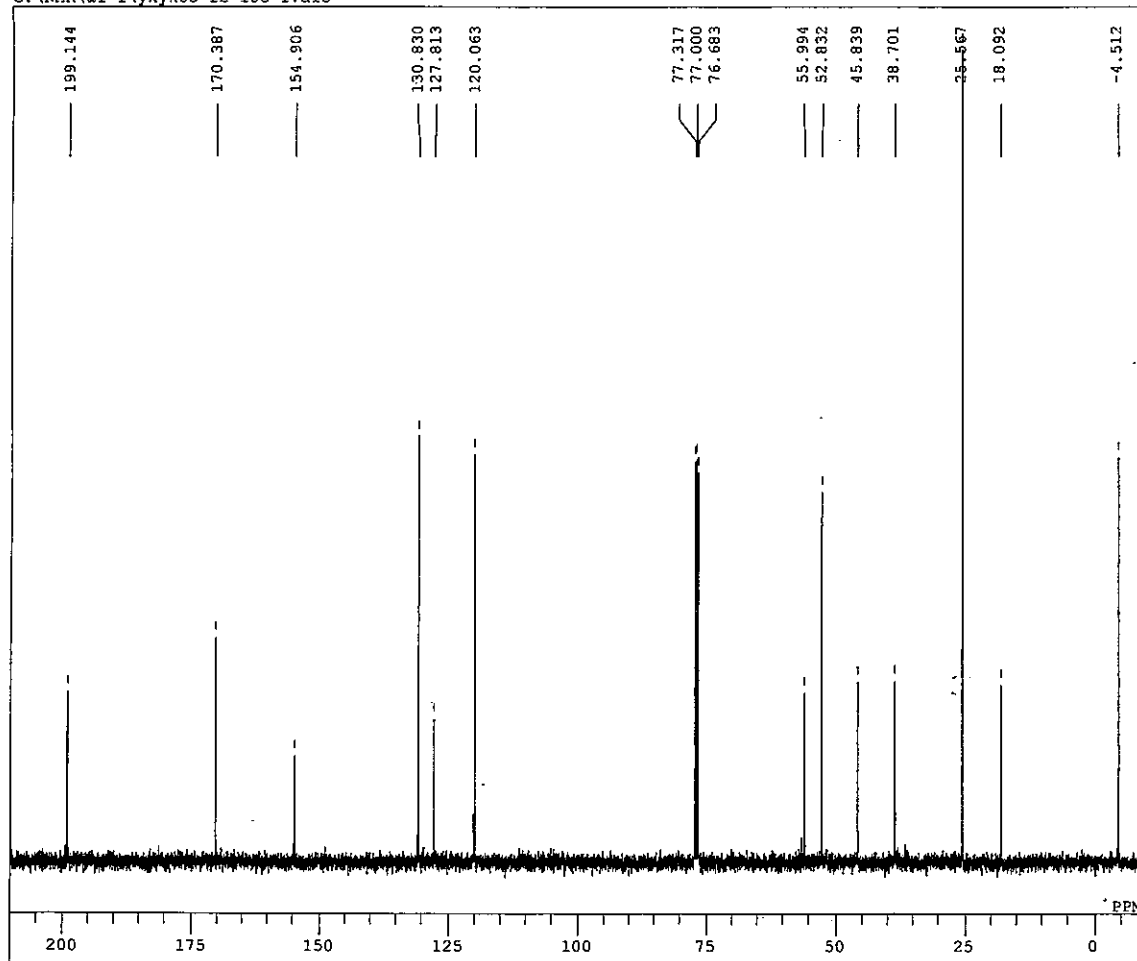


DFILE ykyk-data-f2-1h 1.als
COMNT ykyk-data-f2-1h
DATIM 20-MAR-2010 03:19:08
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
FWI 6.85 usec
IRNUC 1H
CTEMP 25.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 13

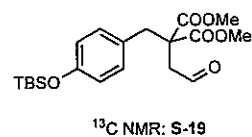


ykyk05-f2-13c

G:\NMR\%i-1\ykyk05-f2-13c 1.als

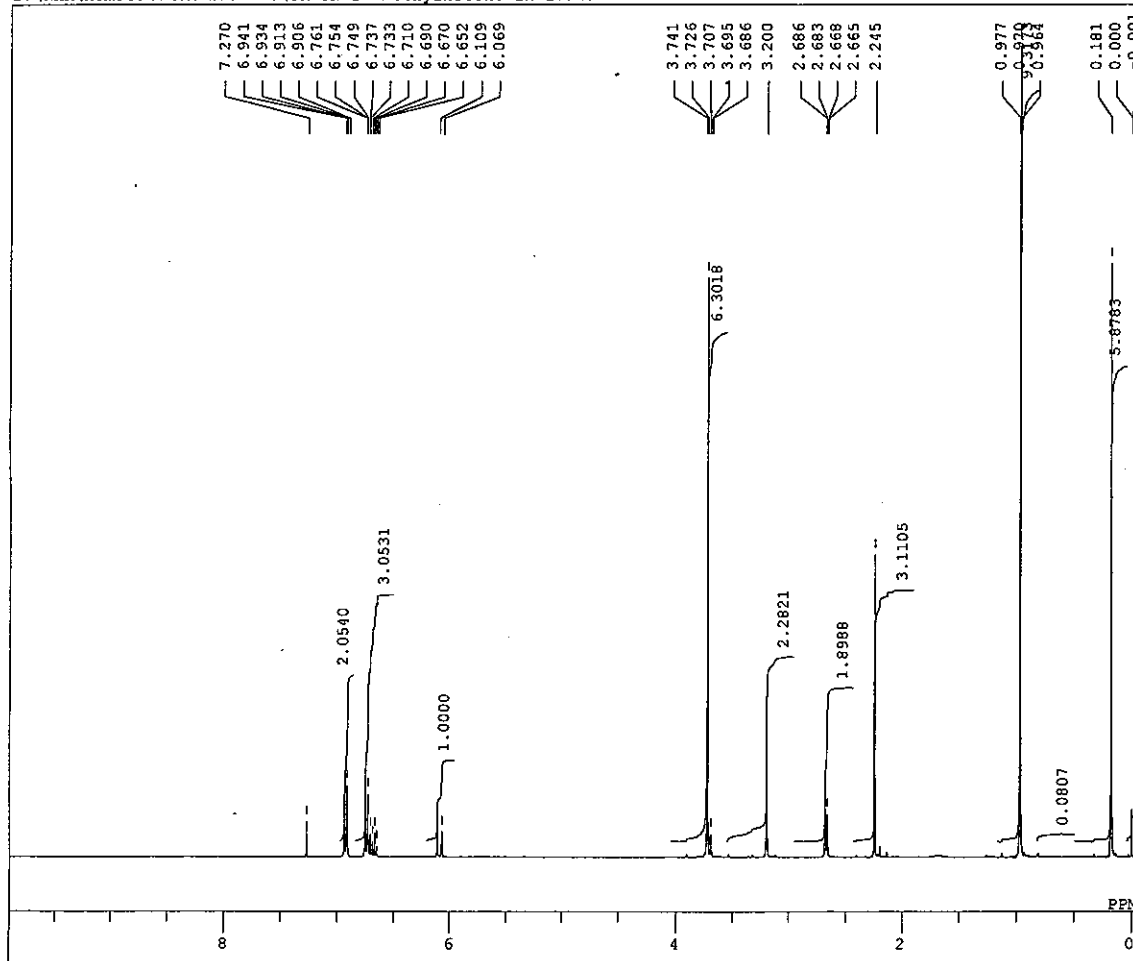


DFILE ykyk05-f2-13c 1.als
COMNT ykyk05-f2-13c
DATIM 30-MAR-2010 05:01:10
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 44
ACQTM 2.6018 sec
PD 1.5000 sec
FWI 3.50 usec
IRNUC 1H
CTEMP 21.5 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

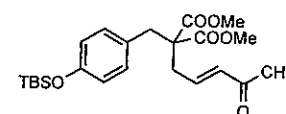


YK-TN-27-methylketone-1H

G:\NMR\nemoto\DATA-IPSO-FC\YK-TN-27-methylketone-1H 1.als



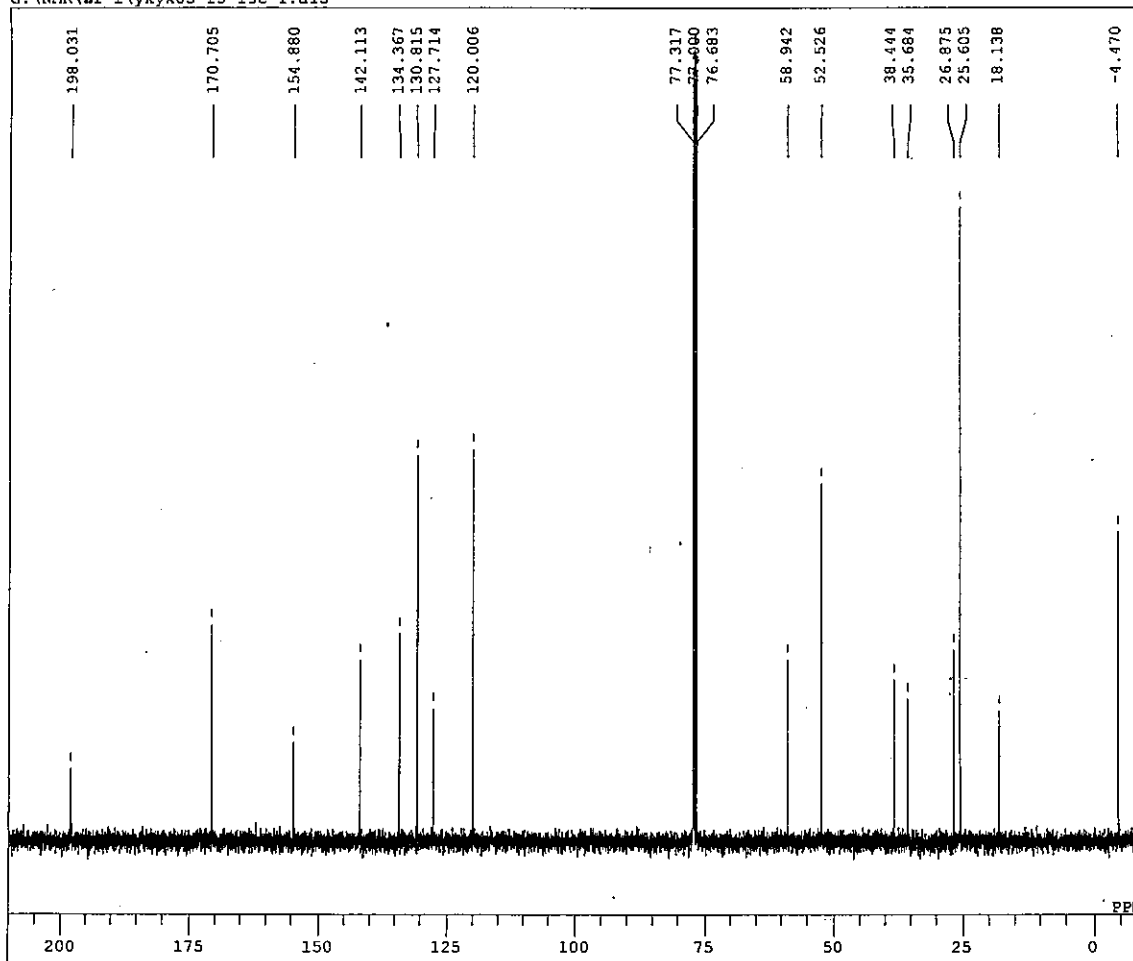
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COMNT YK-TN-27-methylketone-1H
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OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 21.4 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 11



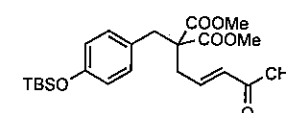
¹H-NMR: S-20

ykyk05-f3-13c

G:\NMR\bi-1\ykyk05-f3-13c 1.als



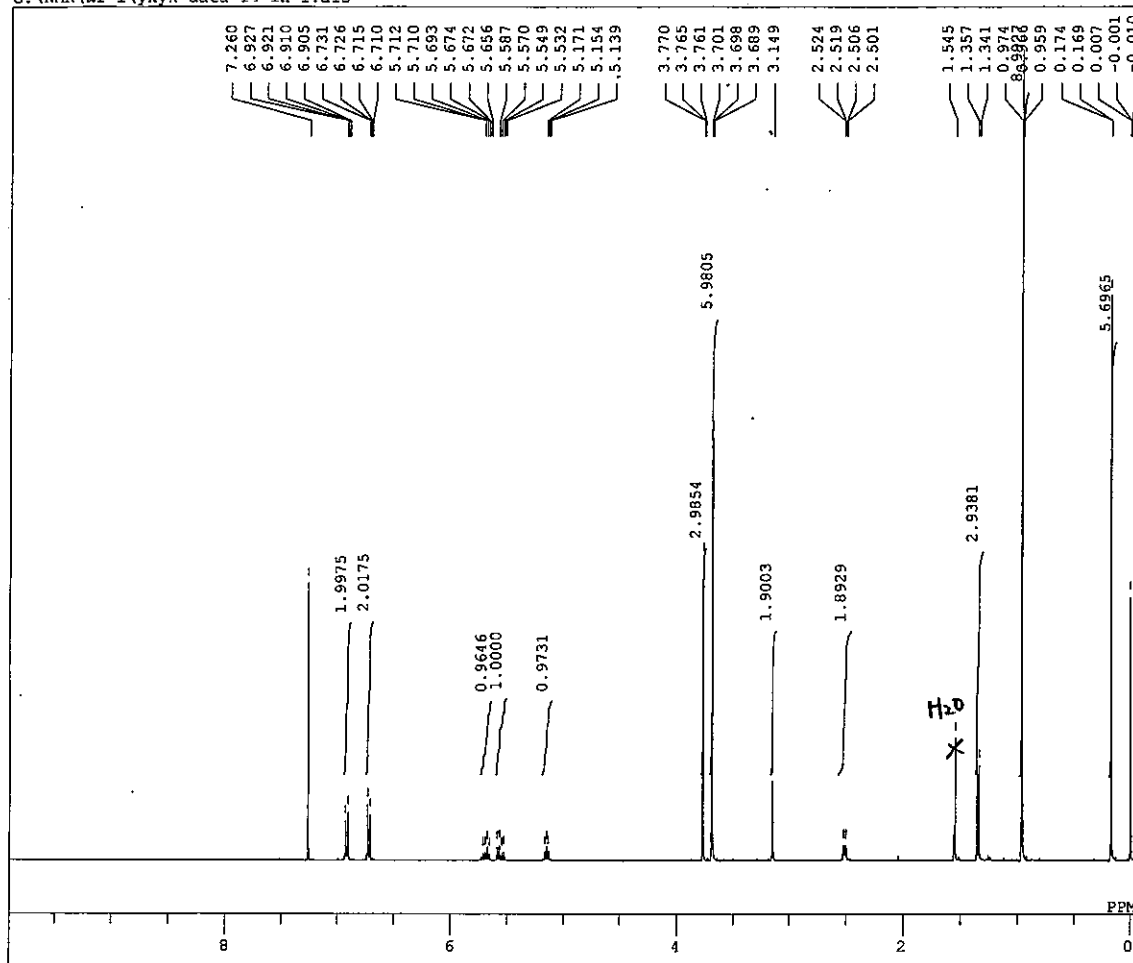
DFILE ykyk05-f3-13c 1.als
COMNT ykyk05-f3-13c
DATIM 30-MAR-2010 05:13:44
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 137
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 21.6 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23



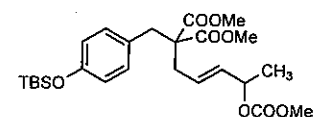
¹³C NMR: S-20

ykyk-data-f4-1h

G:\NMR\h1\ykyk-data-f4-1h 1.als



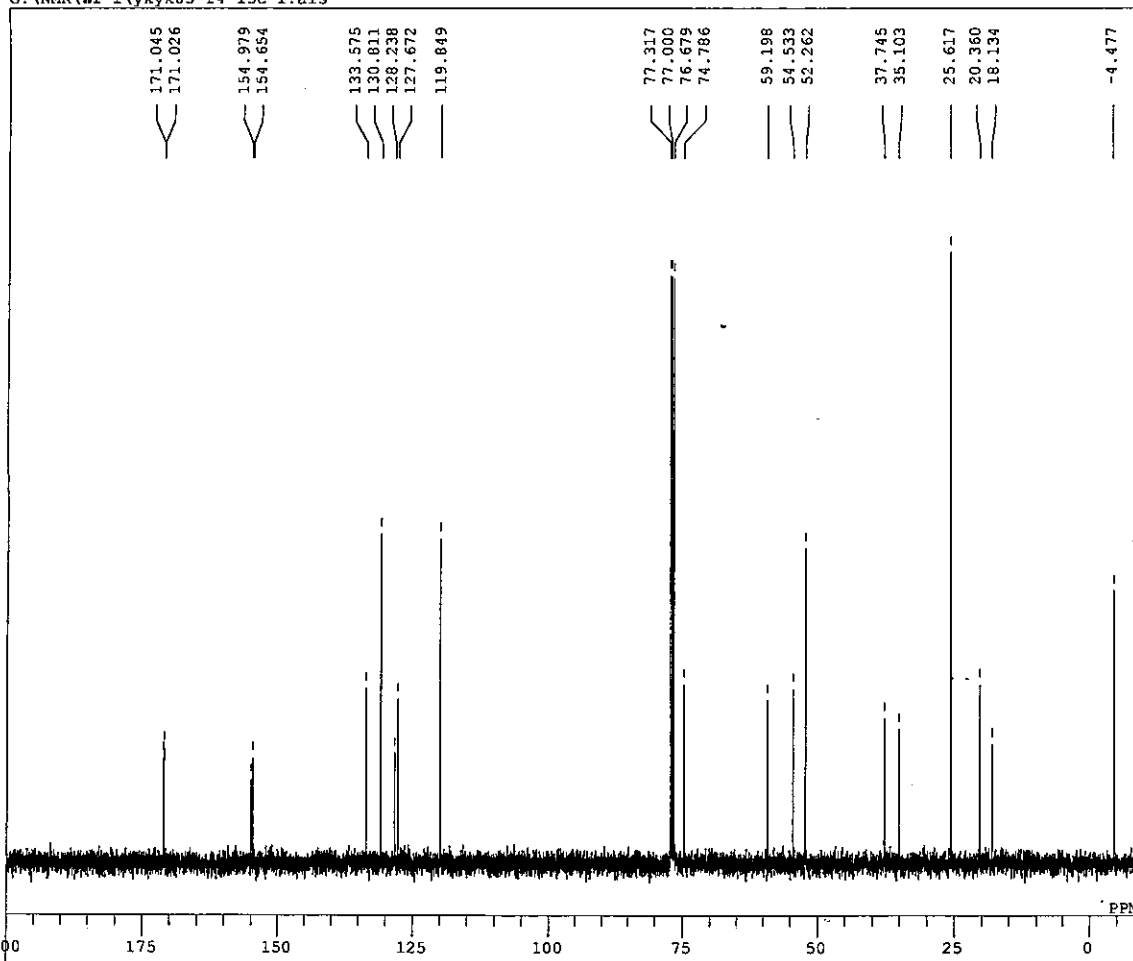
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EXMOD single pulse.exp
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OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 25.0 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 17



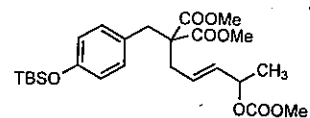
¹H-NMR: S-21

ykyk05-f4-13c

G:\NMR\h1\ykyk05-f4-13c 1.als



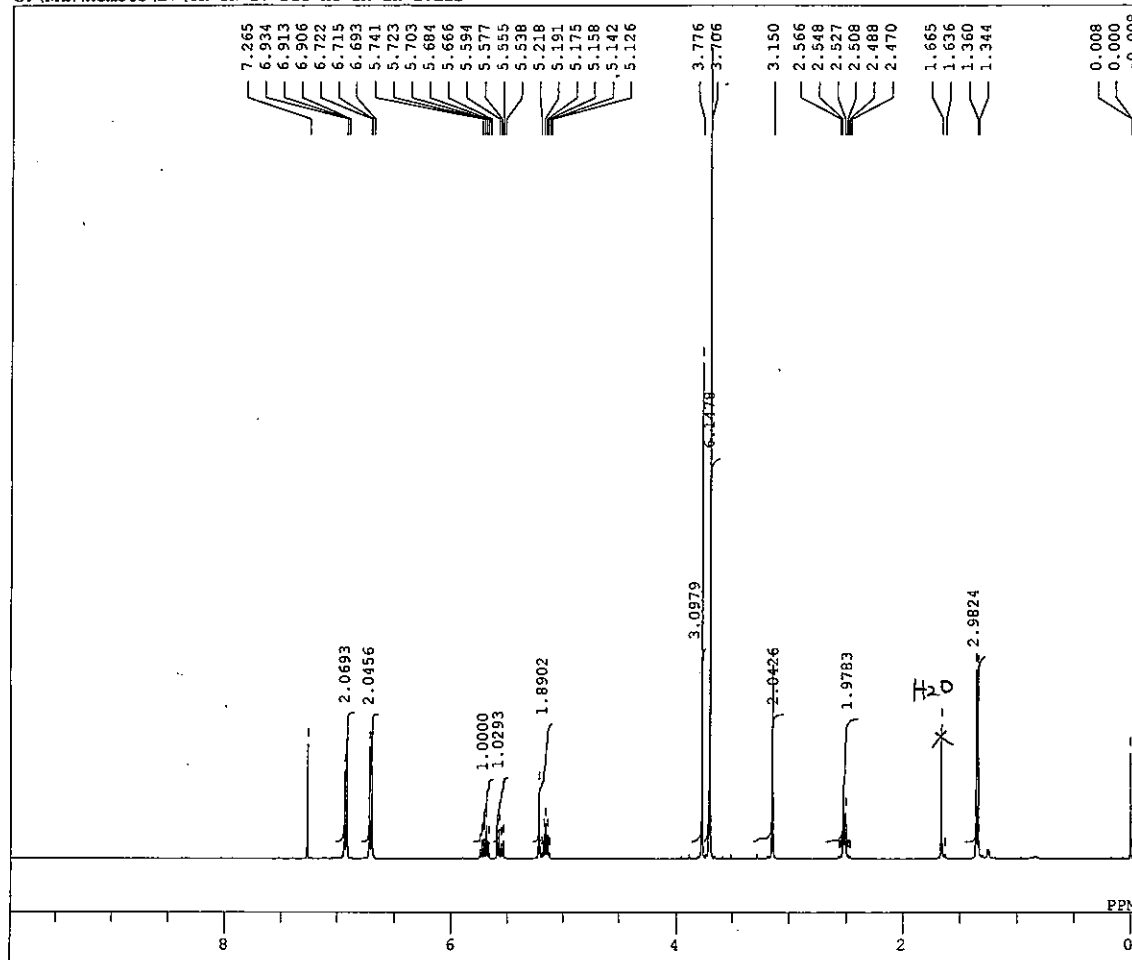
DFILE ykyk05-f4-13c 1.als
COMNT ykyk05-f4-13c
DATIM 30-MAR-2010 05:20:36
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 53
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 21.5 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24



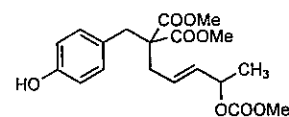
¹³C NMR: S-21

YK-TN-27-sec-Me-SM-1H

G:\NMR\nemoto\27\YK-TN-27-sec-Me-SM-1H 1.als

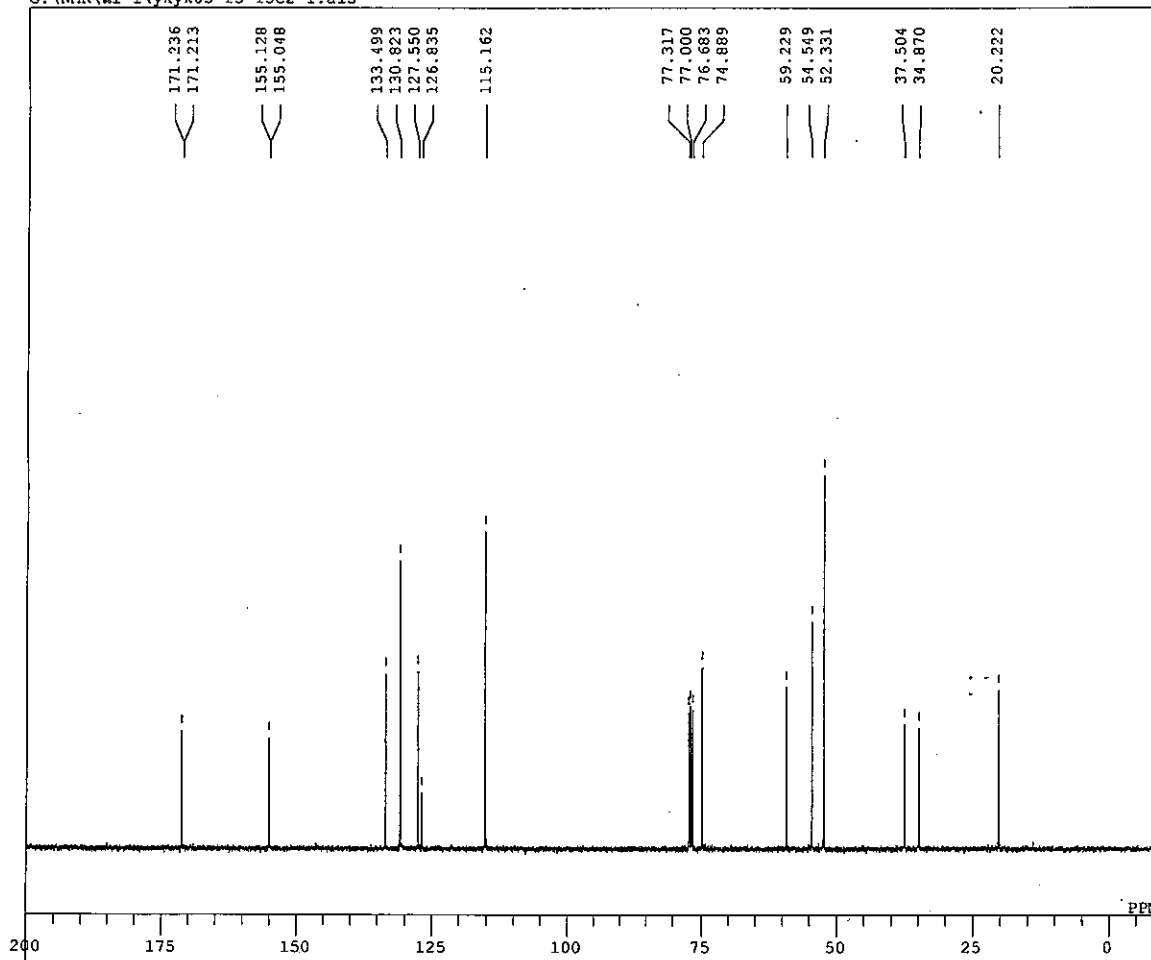


DFILE YK-TN-27-sec-Me-SM-1H 1.als
 COMNT YK-TN-27-sec-Me-SM-1H
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 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.7 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 14

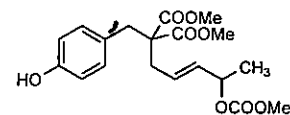
¹H-NMR: 3b

ykyk05-f5-13c2

G:\NMR\kf-i\ykyk05-f5-13c2 1.als

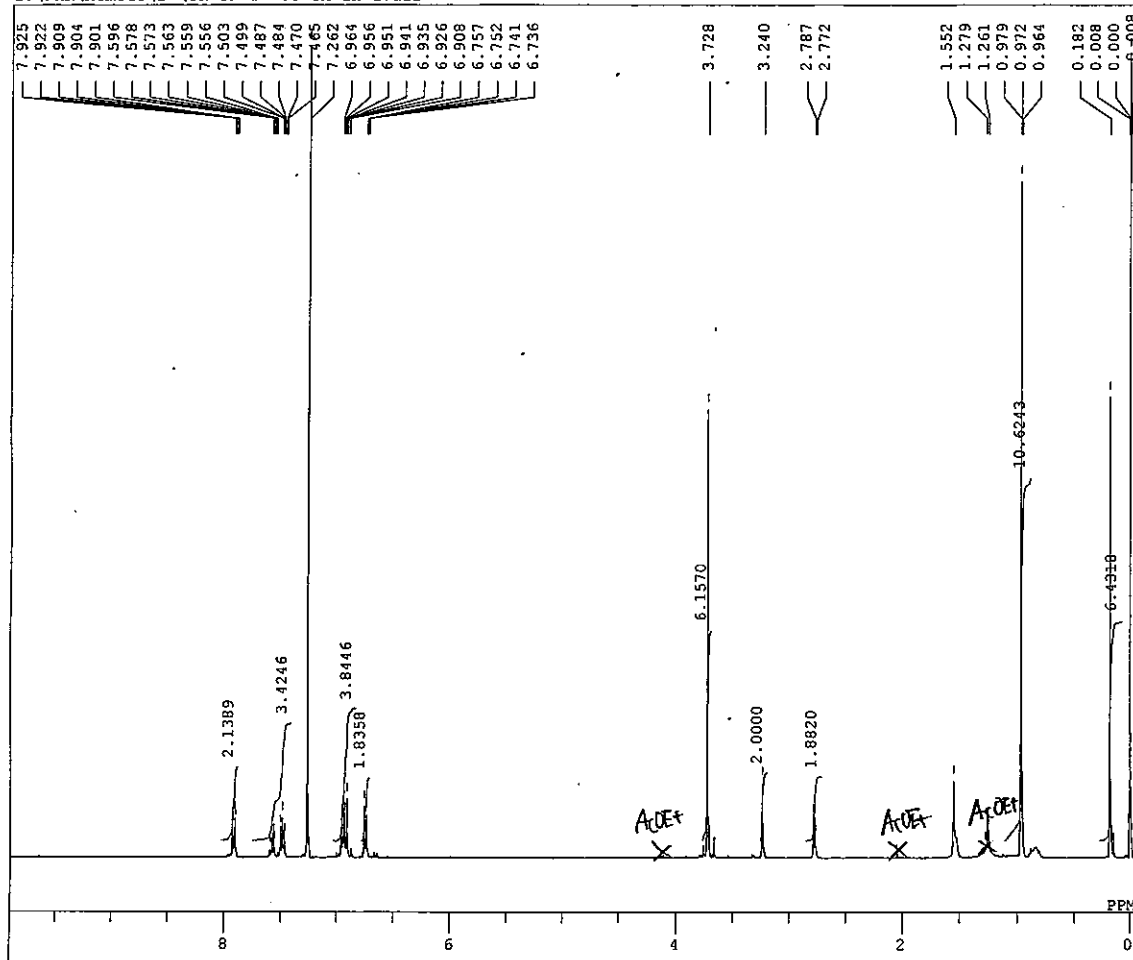


DFILE ykyk05-f5-13c2 1.als
 COMNT ykyk05-f5-13c2
 DATIM 31-MAR-2010 21:31:12
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 119
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

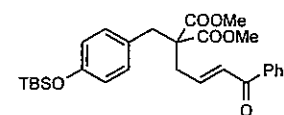
¹³C-NMR: 3b

YK-TN-27-05-SM-1H

G:\NMR\nemoto\27\YK-TN-27-05-SM-1H 1.als

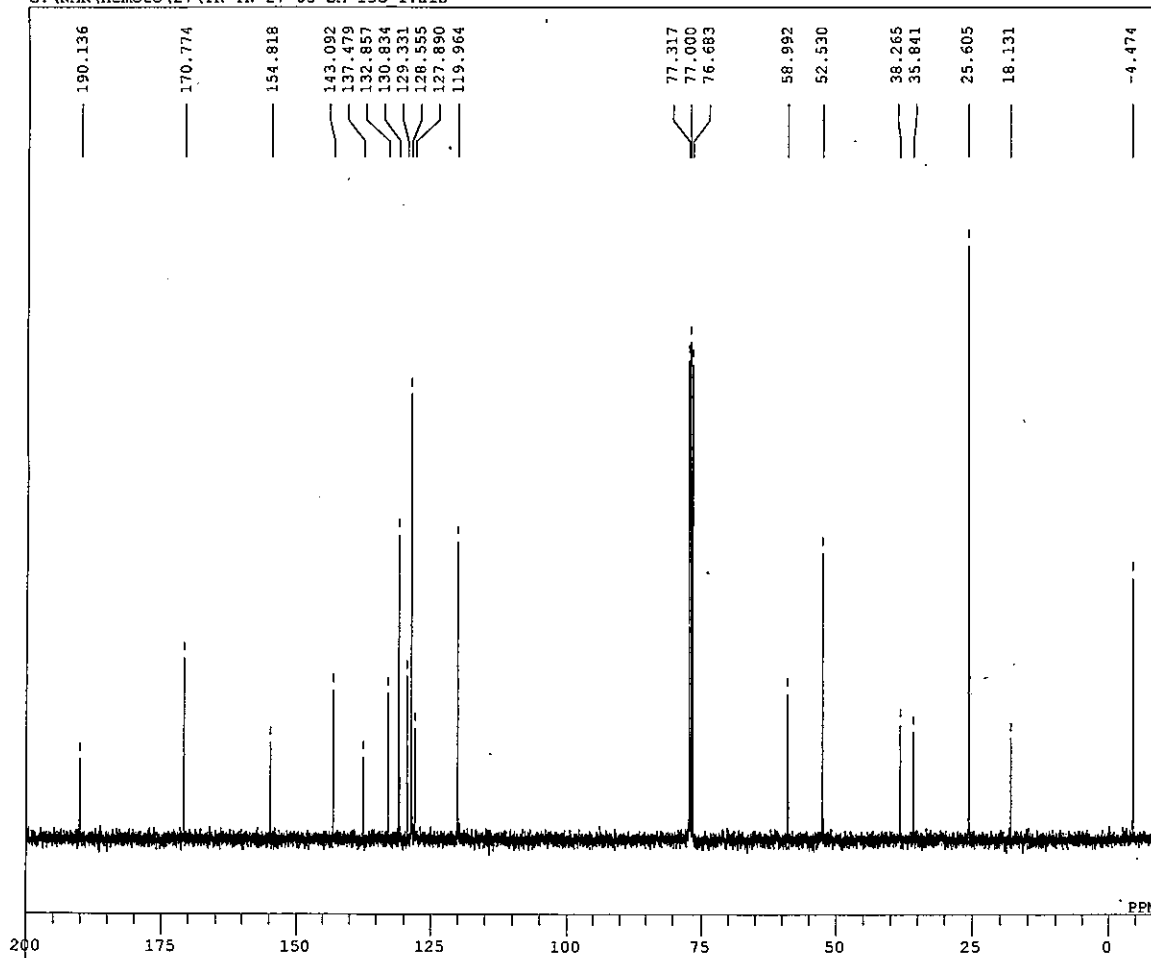


DFILE YK-TN-27-05-SM-1H 1.als
 COMNT YK-TN-27-05-SM-1H
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 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.7 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 20

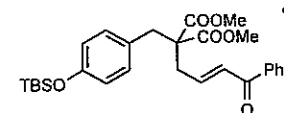
¹H-NMR: S-22

YK-TN-27-05-SM-13C

G:\NMR\nemoto\27\YK-TN-27-05-SM-13C 1.als

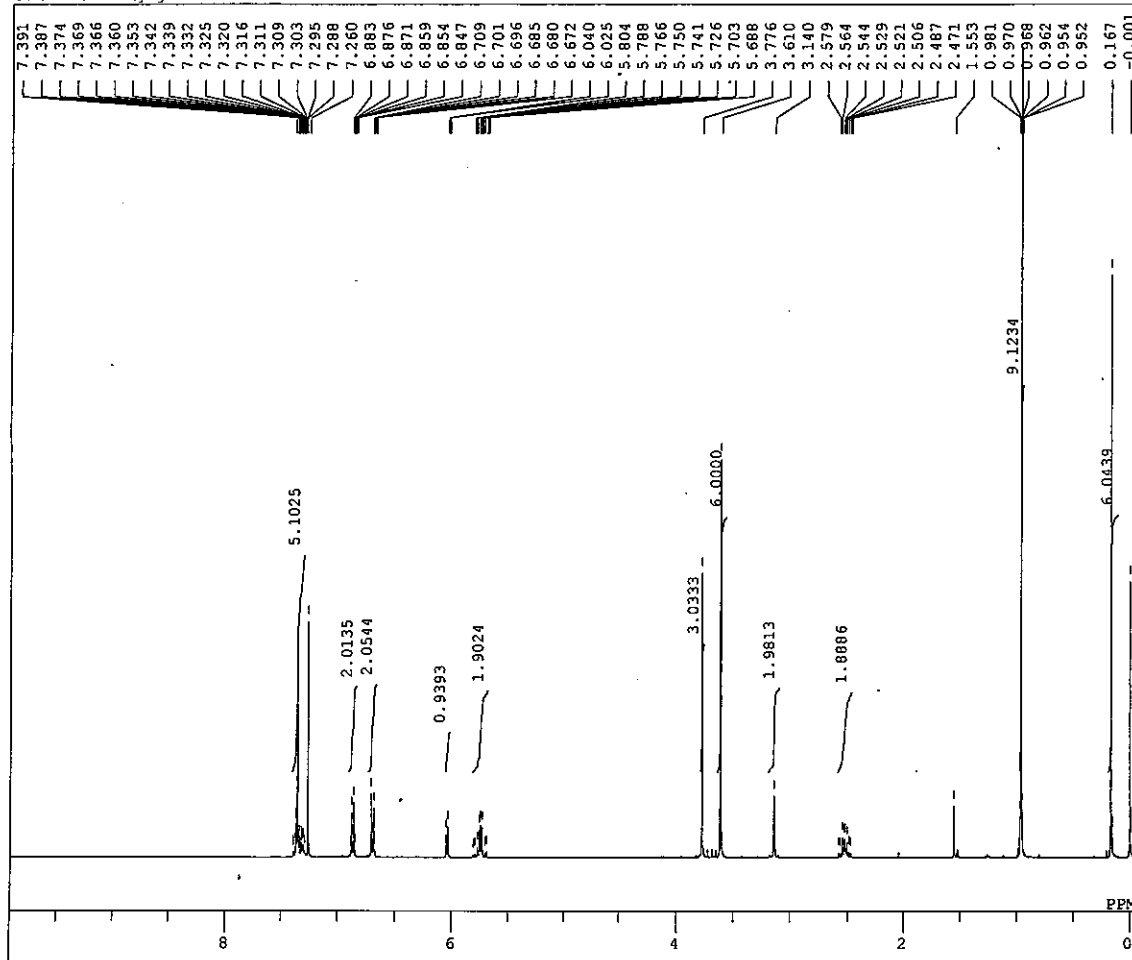


DFILE YK-TN-27-05-SM-13C 1.als
 COMNT YK-TN-27-05-SM-13C
 DATIM 15-JUN-2010 00:45:00
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 93
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 23.1 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

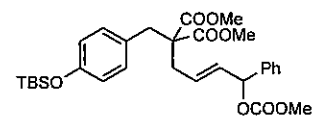
¹³C NMR: S-22

ykyk05-e2-1h2

G:\NMR\af-i\ykyk05-e2-1h2 1.als

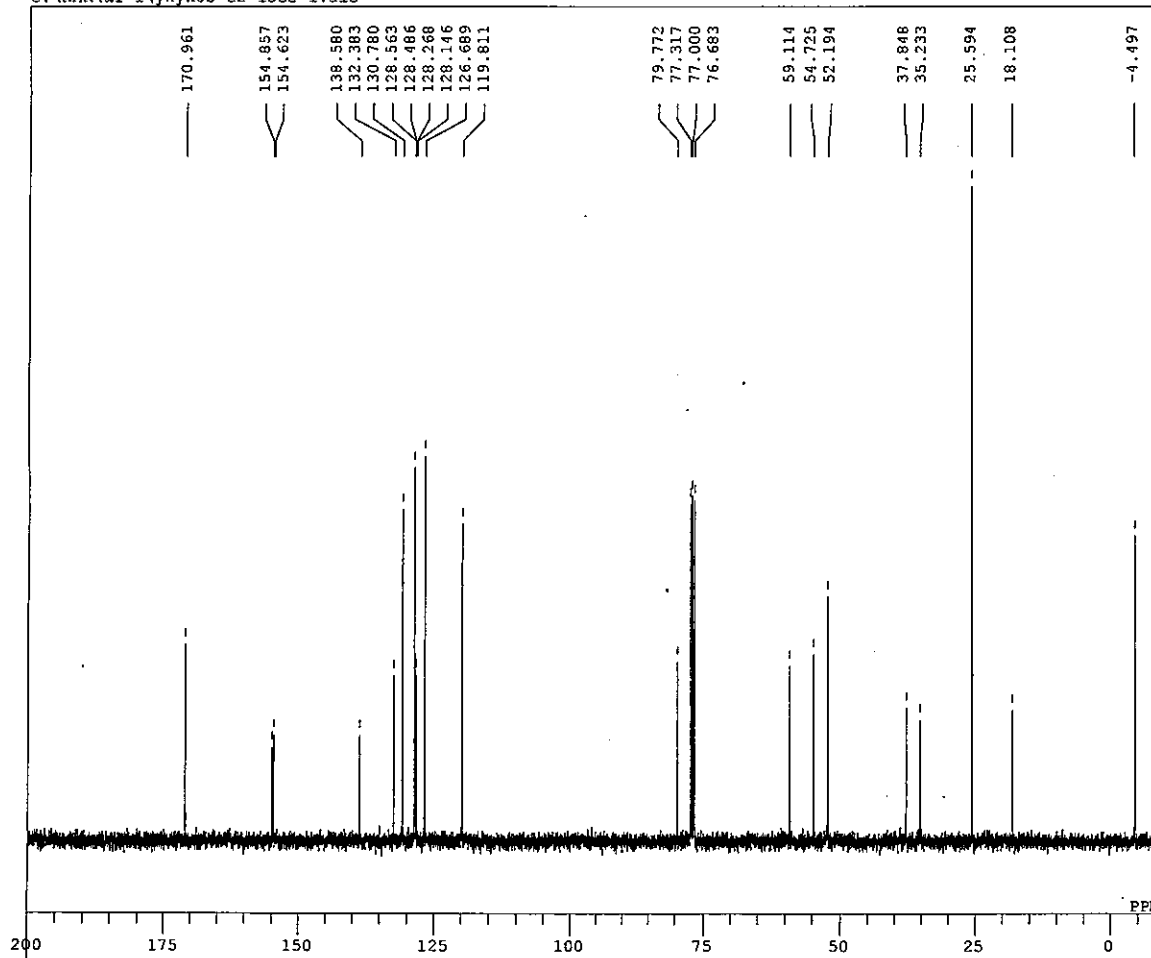


DFILE ykyk05-e2-1h2_1.als
 COMNT ykyk05-e2-1h2_1
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 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.3 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 17

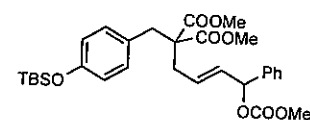
¹H-NMR: S-23

ykyk05-e2-13c2

G:\NMR\af-i\ykyk05-e2-13c2 1.als

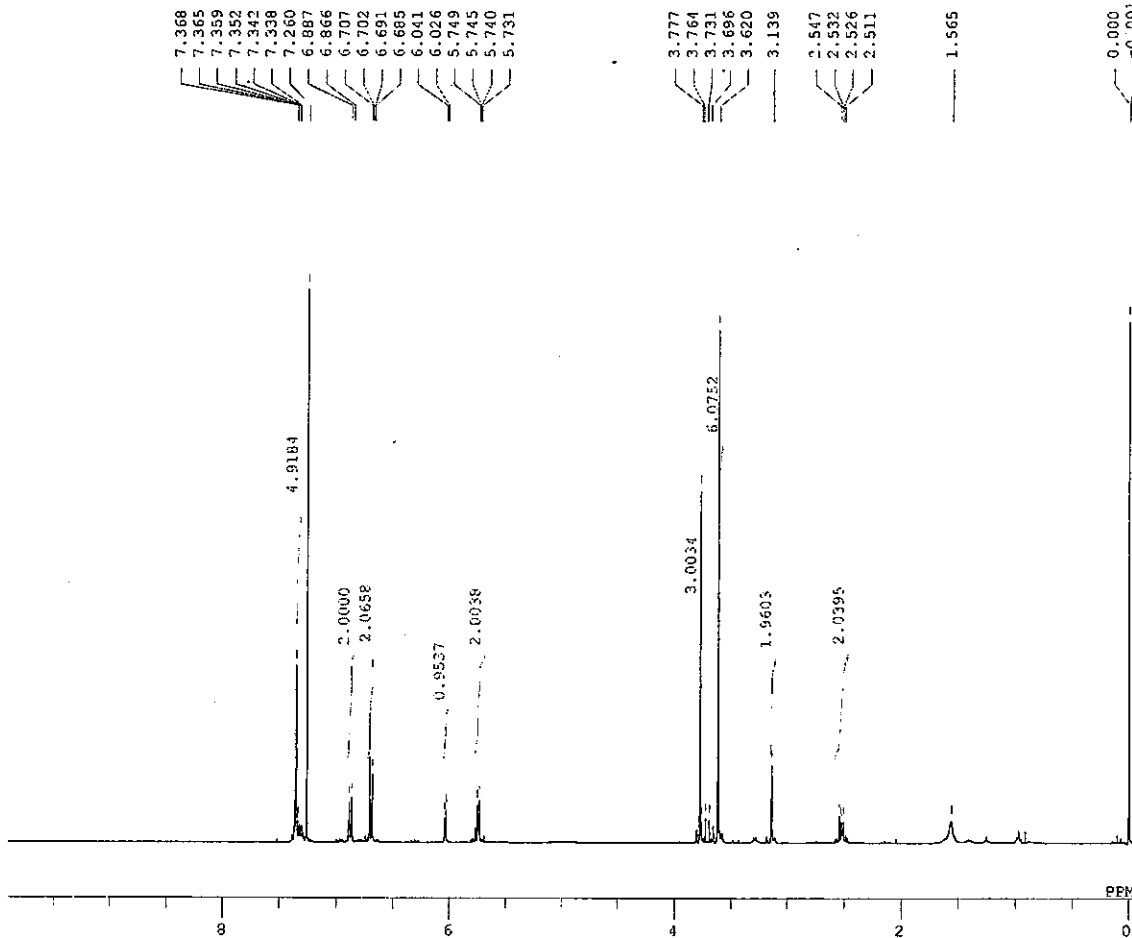


DFILE ykyk05-e2-13c2_1.als
 COMNT ykyk05-e2-13c2_1
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 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 52
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 22.4 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

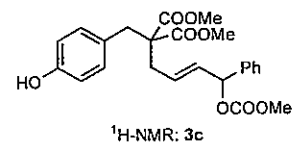
¹³C NMR: S-23

ykyk05-343c-1h2

6: ANMRA 1-1-ykyk05-343c-1h2_1.als

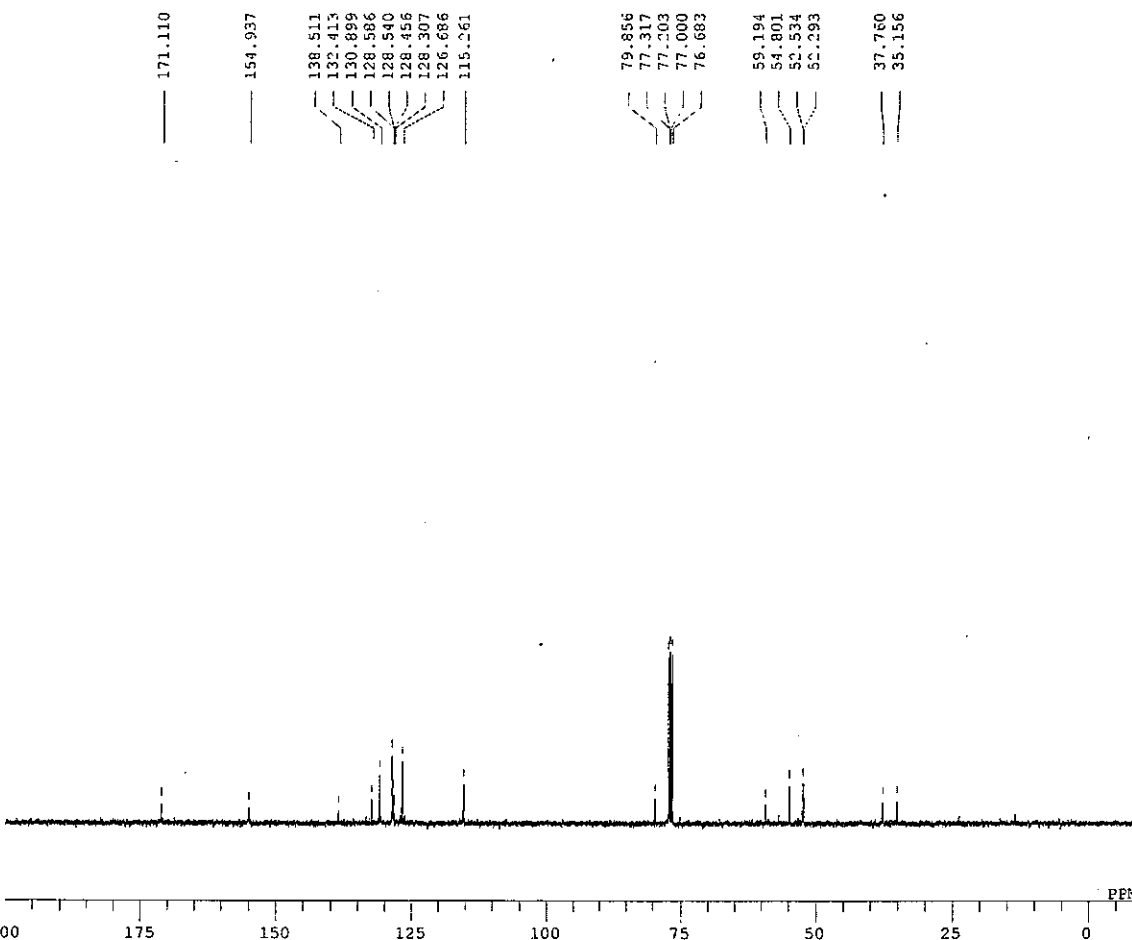


DFILE ykyk05-343c-1h2_1.als
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OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 22.8 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 19

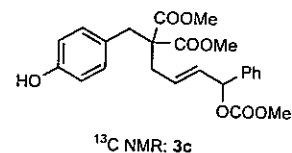


ykyk05-343-13c3

6: ANMRA 1-1-ykyk05-343-13c3_1.als

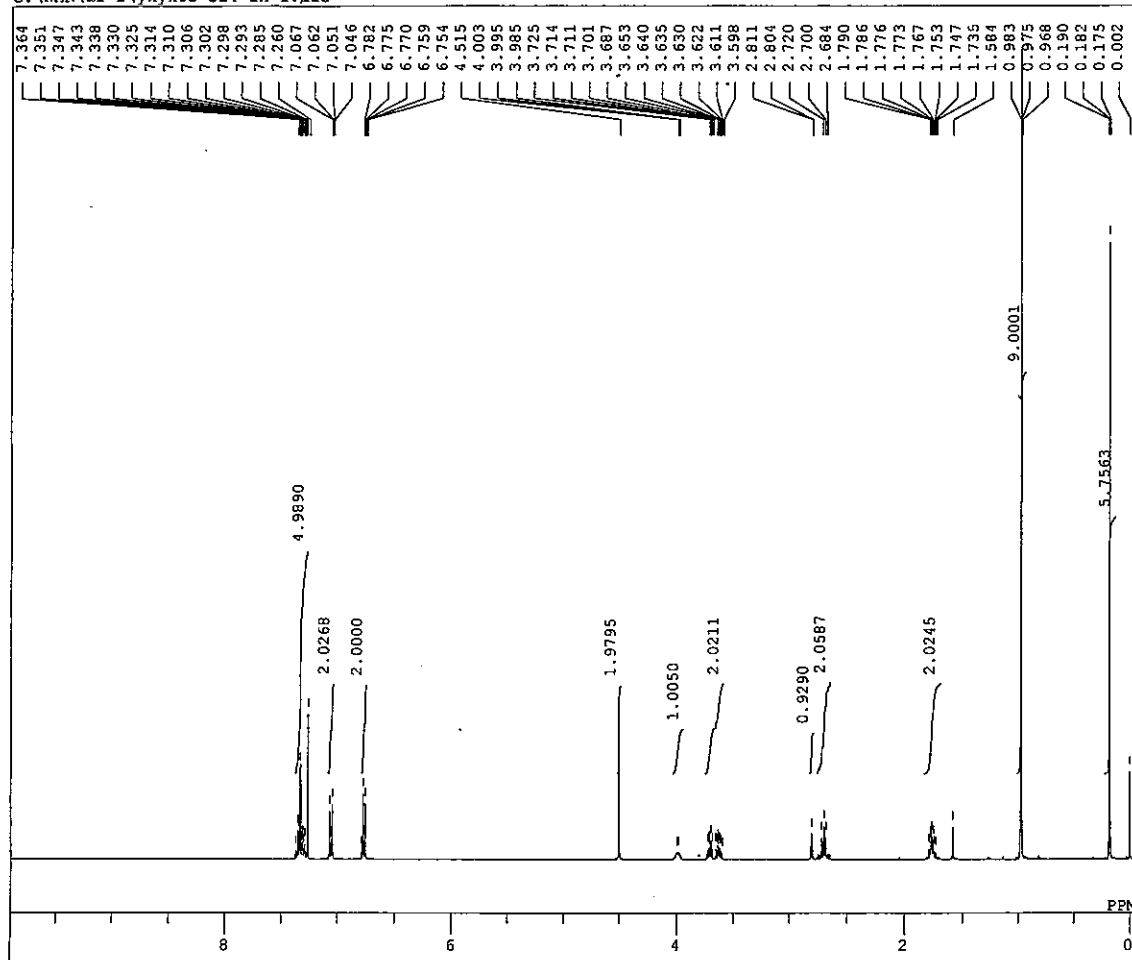


DFILE ykyk05-343-13c3_1.als
COMNT ykyk05-343-13c3
DATIM 15-JUL-2010 20:18:41
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 112
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 23.4 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

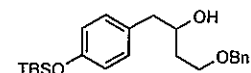


ykyk05-324-1h

G:\NMR\1h-1\ykyk05-324-1h 1.als

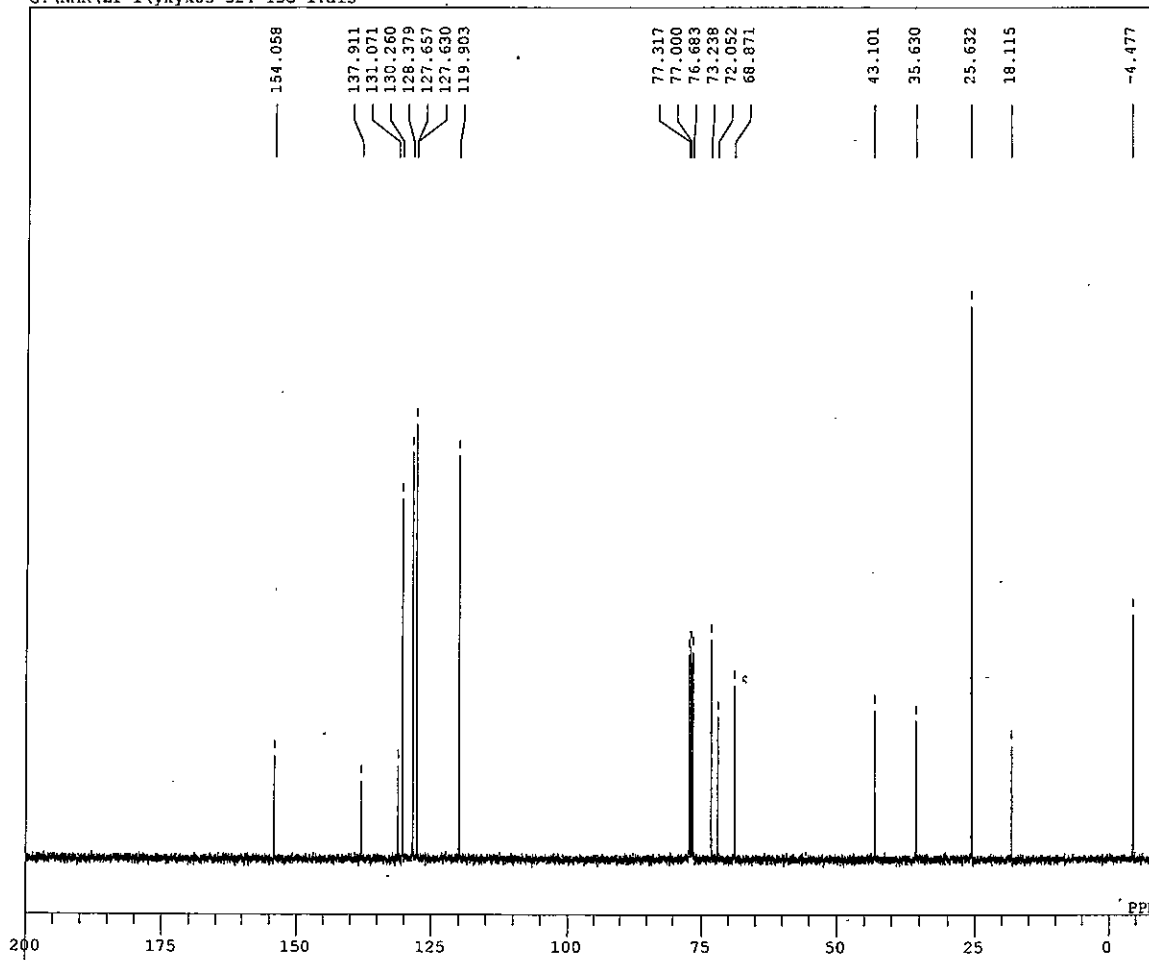


DFILE ykyk05-324-1h 1.als
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 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 20.1 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 14

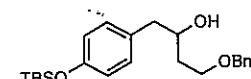
¹H-NMR: S-24

ykyk05-324-13c

G:\NMR\13c-1\ykyk05-324-13c 1.als

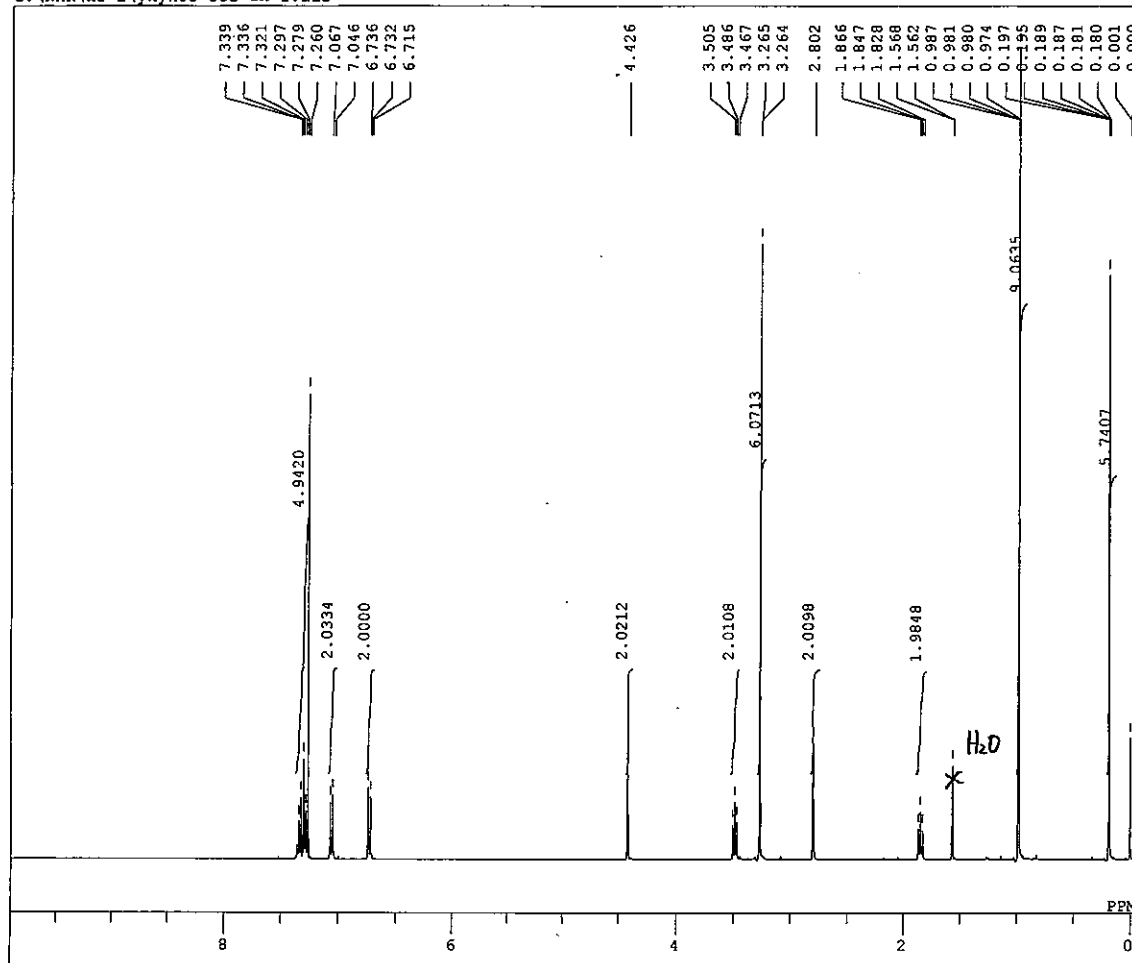


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 DATIM 18-MAR-2010 04:09:51
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 78
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 21.8 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

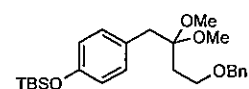
¹³C NMR: S-24

ykyk05-331-1h

G:\NMR\kfi-1\ykyk05-331-1h 1.als

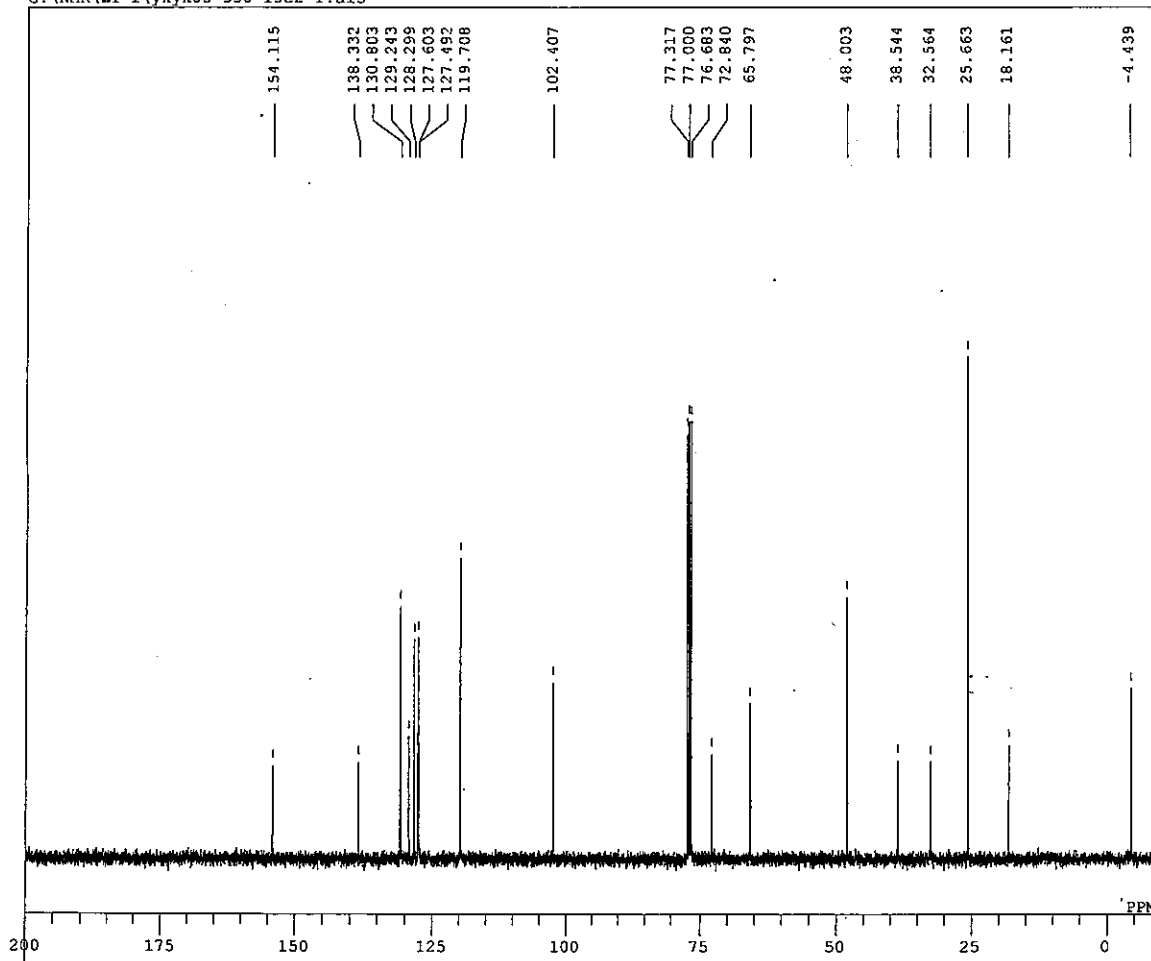


DFILE ykyk05-331-1h 1.als
 COMNT ykyk05-331-1h
 DATIM 24-MAR-2010 04:13:37
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.0 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 15

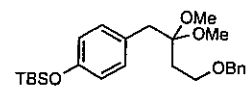
¹H-NMR: S-25

ykyk05-330-13c2

G:\NMR\kfi-1\ykyk05-330-13c2 1.als



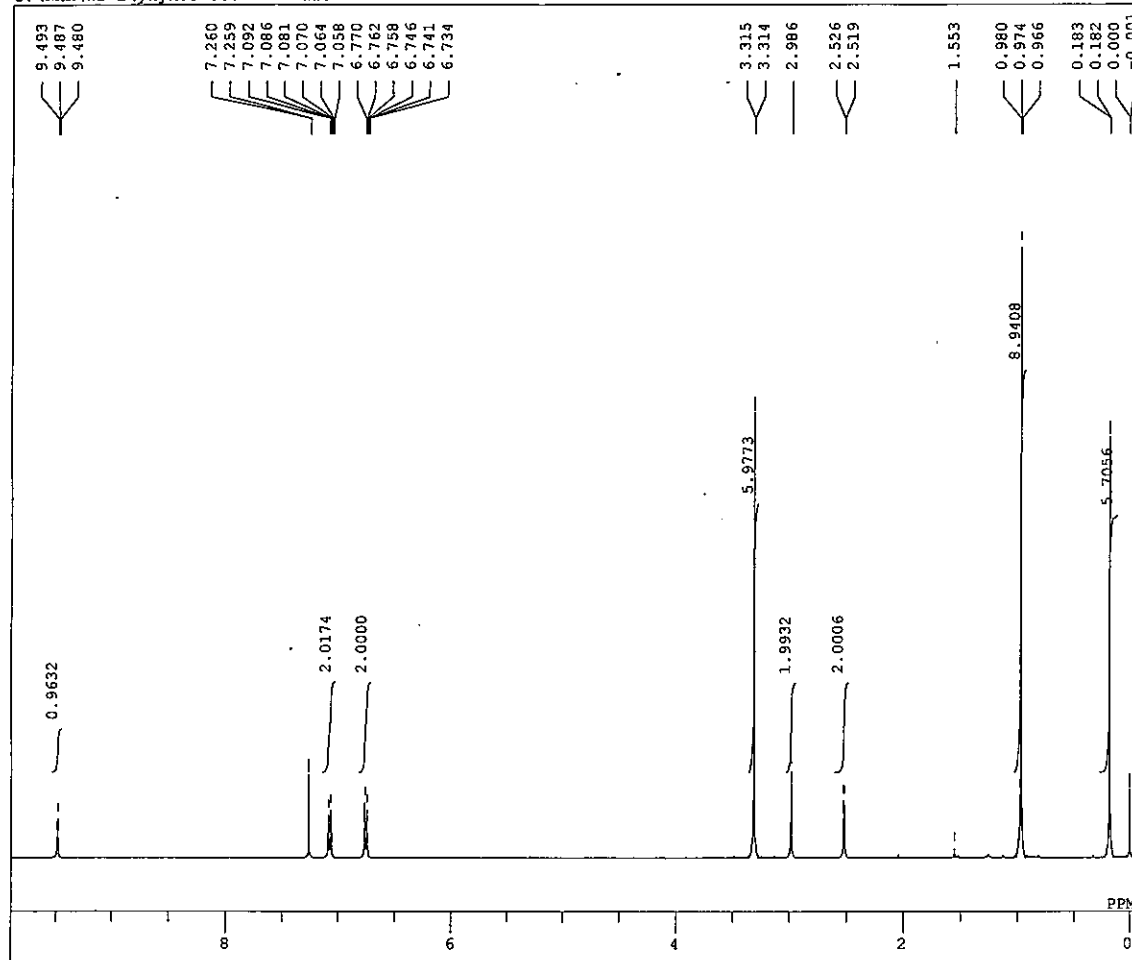
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 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 86
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 21.9 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

¹³C NMR: S-25

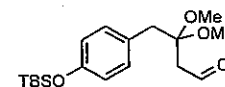
page 5-80

ykyk05-333-1h

G:\NMR\1h\ykyk05-333-1h 1.als

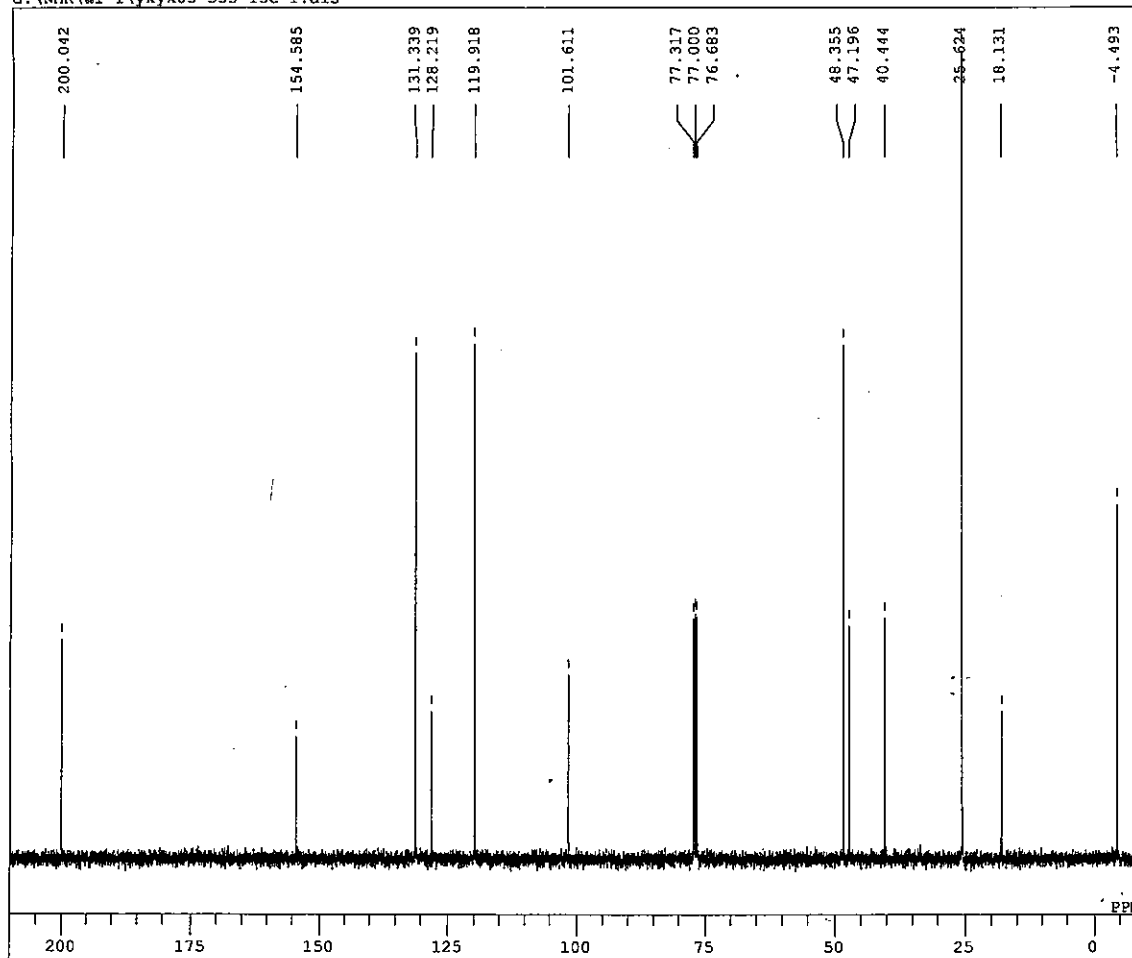


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 DATIM 25-MAR-2010 01:29:44
 OBNUC 1H
 EXMOD single_pulse_exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 14

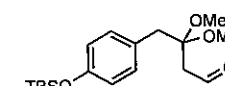
¹H-NMR: S-26

ykyk05-333-13c

G:\NMR\13c\ykyk05-333-13c 1.als



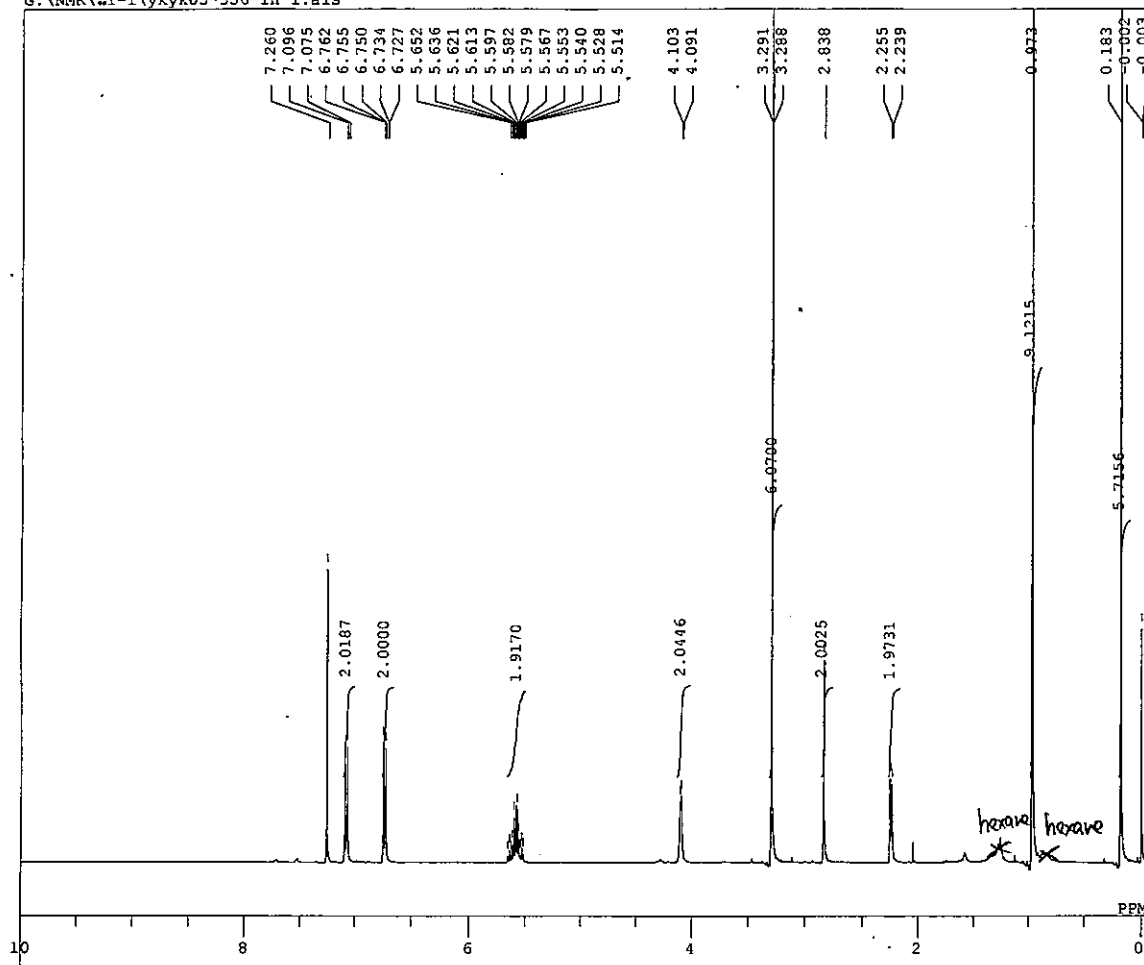
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 EXMOD single_pulse_dec
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 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 33
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 13C
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

¹³C NMR: S-26

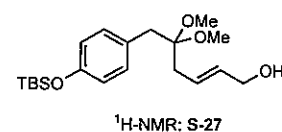
page 5-81

ykyk05-336-1h

G:\NMR\af-i\ykyk05-336-1h 1.als

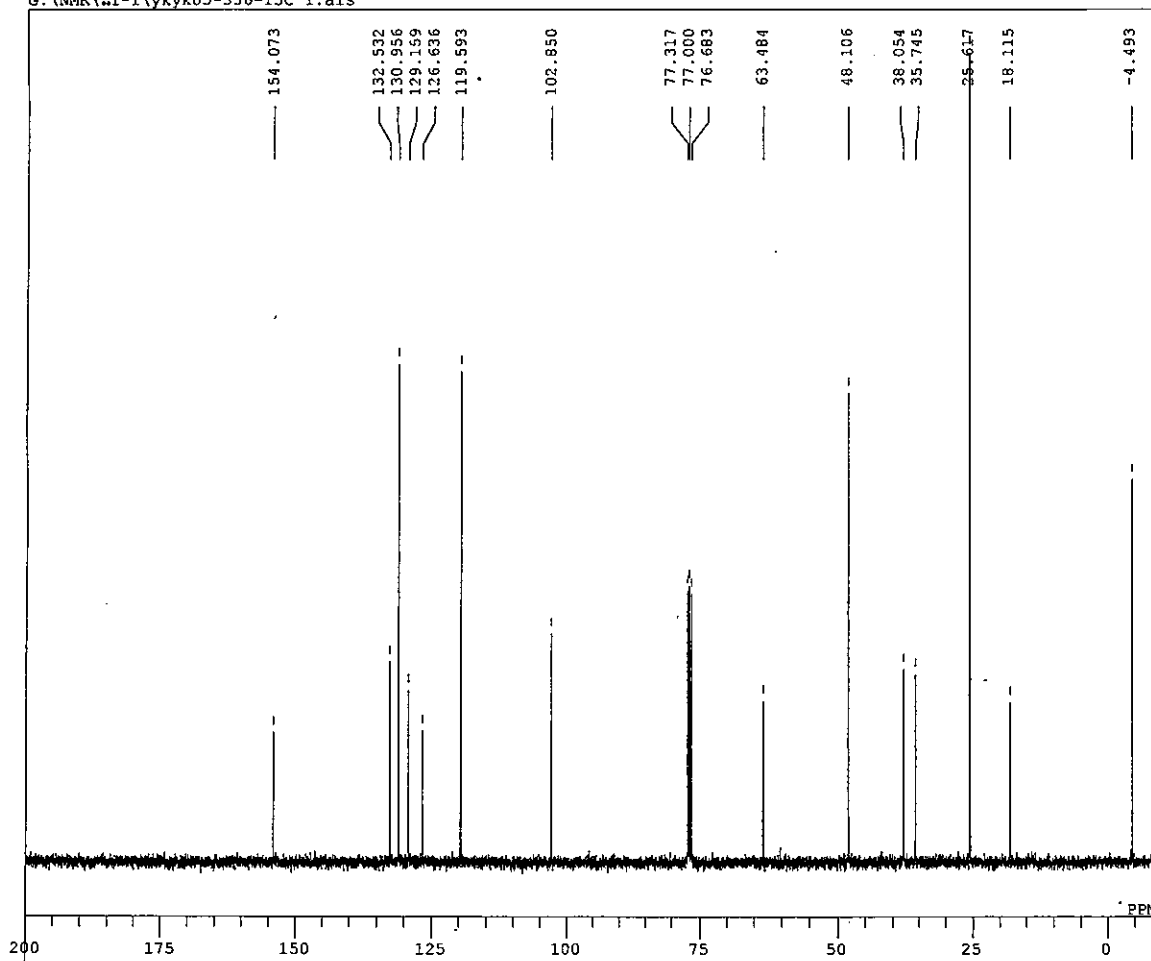


DFILE ykyk05-336-1h 1.als
 COMNT ykyk05-336-1h
 DATIM 27-MAR-2010 04:57:57
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 20.3 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 14

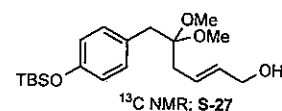


ykyk05-336-13c

G:\NMR\af-i\ykyk05-336-13c 1.als

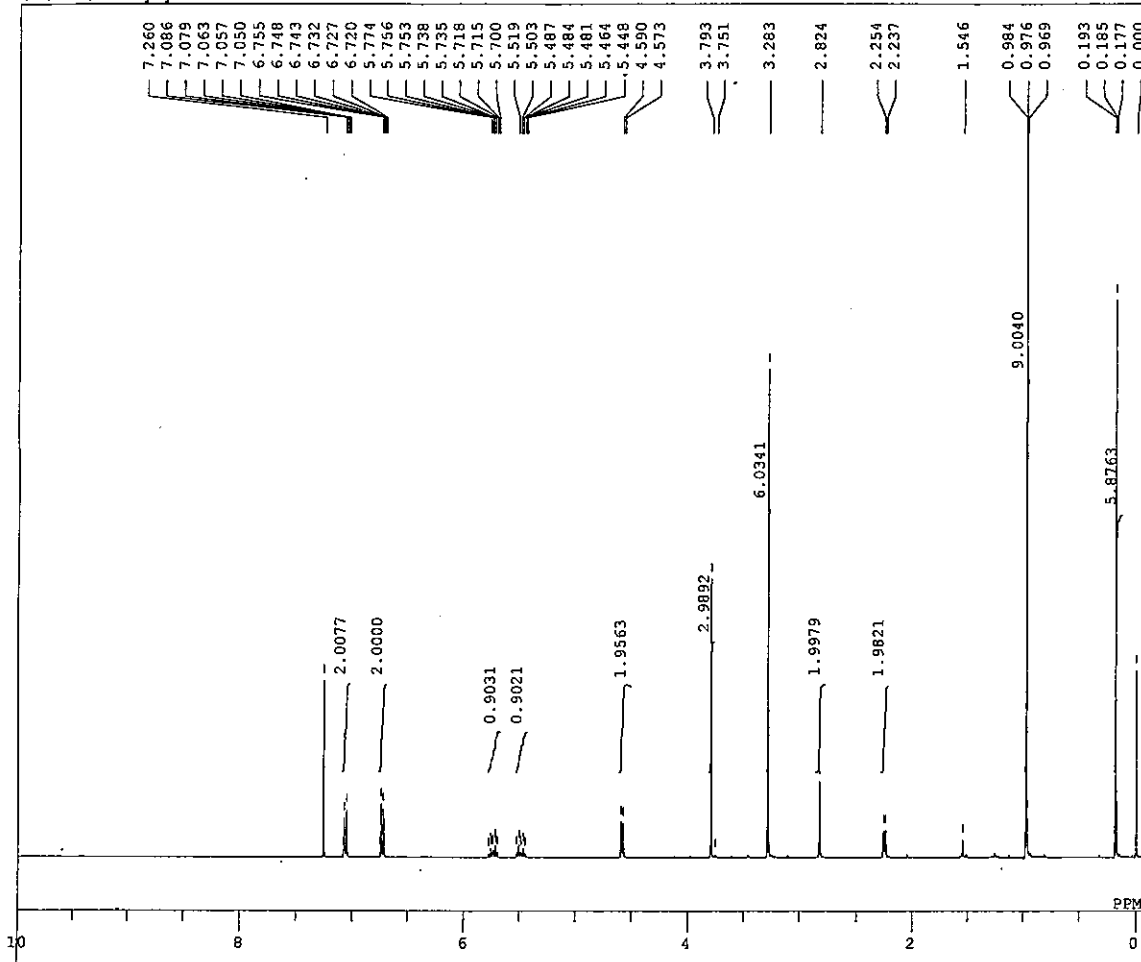


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 OBNUC 13C
 EXMOD single_pulse_dec
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 POINT 65536
 FREQU 25188.92 Hz
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 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

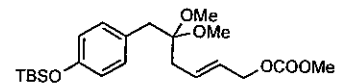


ykyk05-337-1h

G:\NMR\h1-1\ykyk05-337-1h 1.als



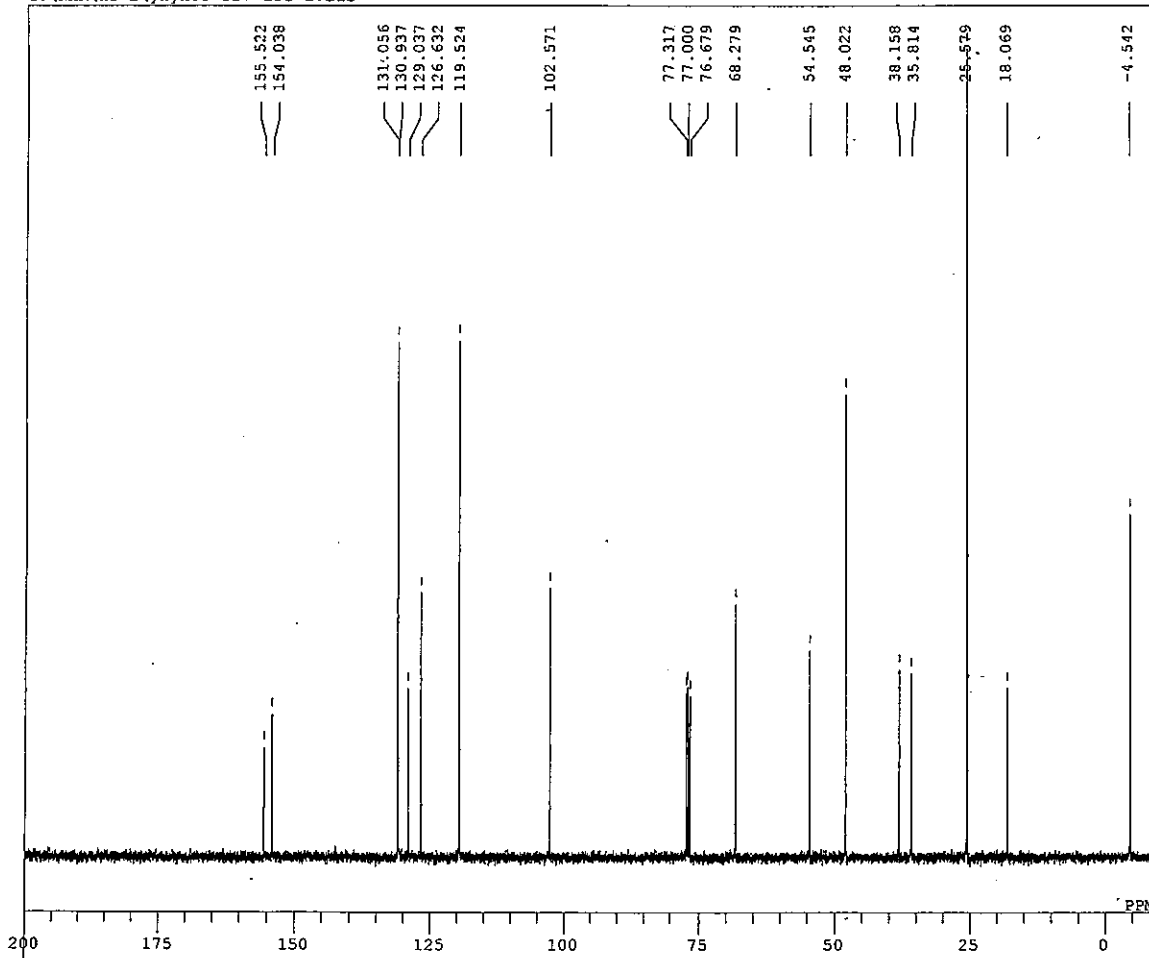
DFILE ykyk05-337-1h 1.als
COMNT ykyk05-337-1h
DATIM 28-MAR-2010 02:49:47
OBNUC 1H
EXMOD single_pulse_exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
FW1 6.85 usec
IRNUC 1H
CTEMP 25.0 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 16



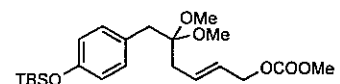
¹H-NMR: S-28

ykyk05-337-13c

G:\NMR\h1-1\ykyk05-337-13c 1.als



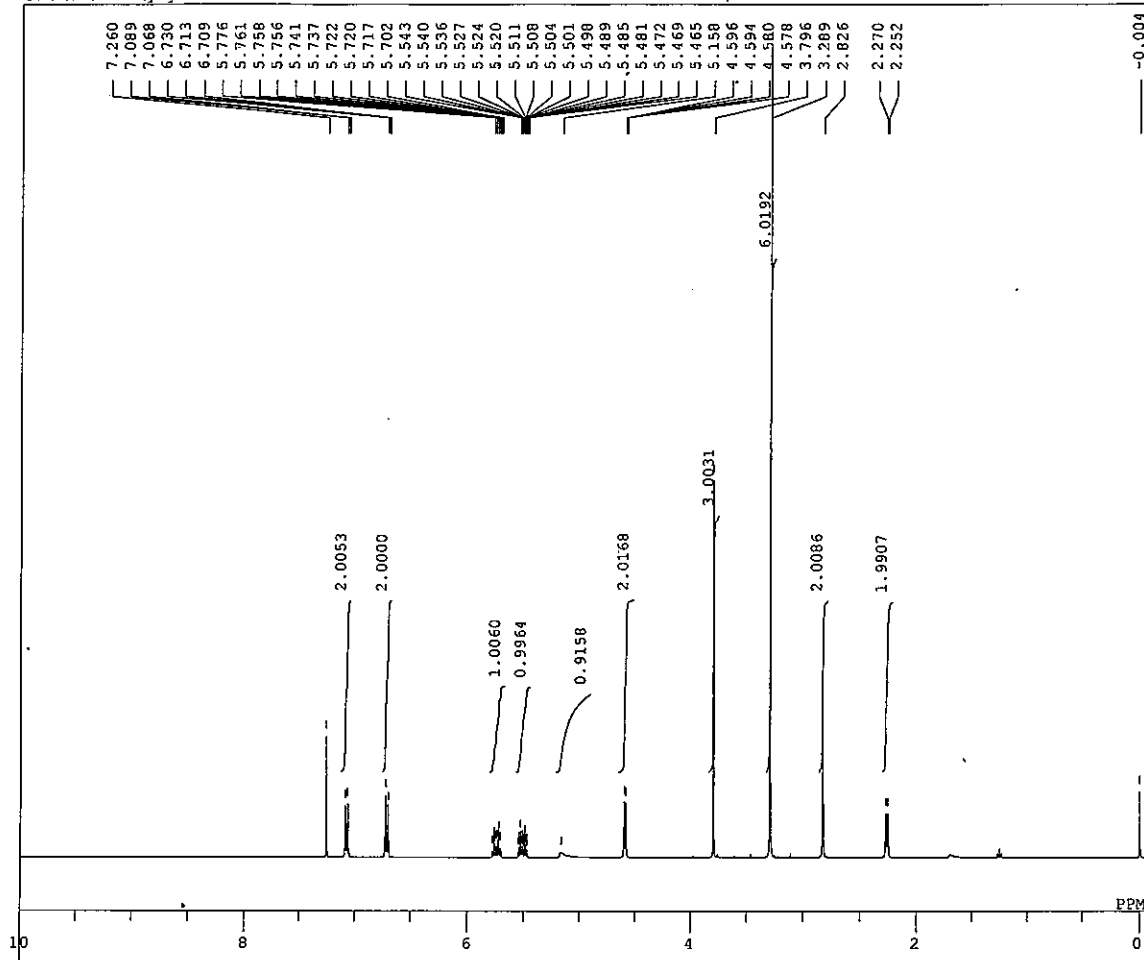
DFILE ykyk05-337-13c 1.als
COMNT ykyk05-337-13c
DATIM 28-MAR-2010 02:54:49
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 26
ACQTM 2.6018 sec
PD 1.5000 sec
FW1 3.50 usec
IRNUC 13C
CTEMP 25.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23



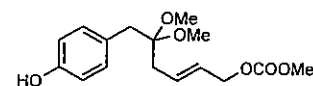
¹³C NMR: S-28

ykyk05-338-1h

G:\NMR\1h-1\ykyk05-338-1h 1.als

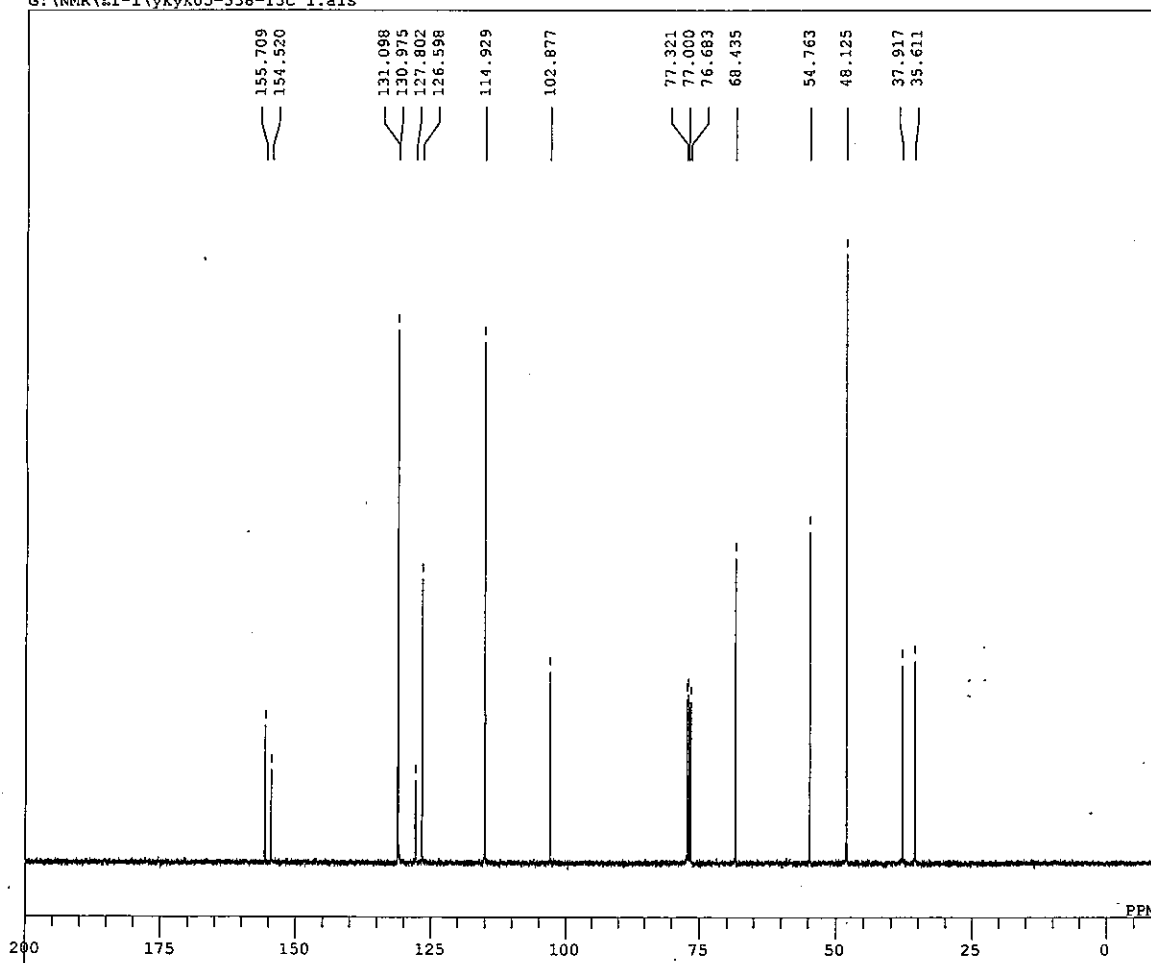


DFILE ykyk05-338-1h 1.als
 COMNT ykyk05-338-1h
 DATIM 30-MAR-2010 03:24:35
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 20.2 c
 SLVNT CDCL3
 EXREF 7.26 ppm
 BF 0.12 Hz
 RGAIN 14

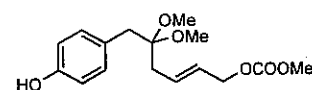
¹H-NMR: 3d

ykyk05-338-13c

G:\NMR\1h-1\ykyk05-338-13c 1.als

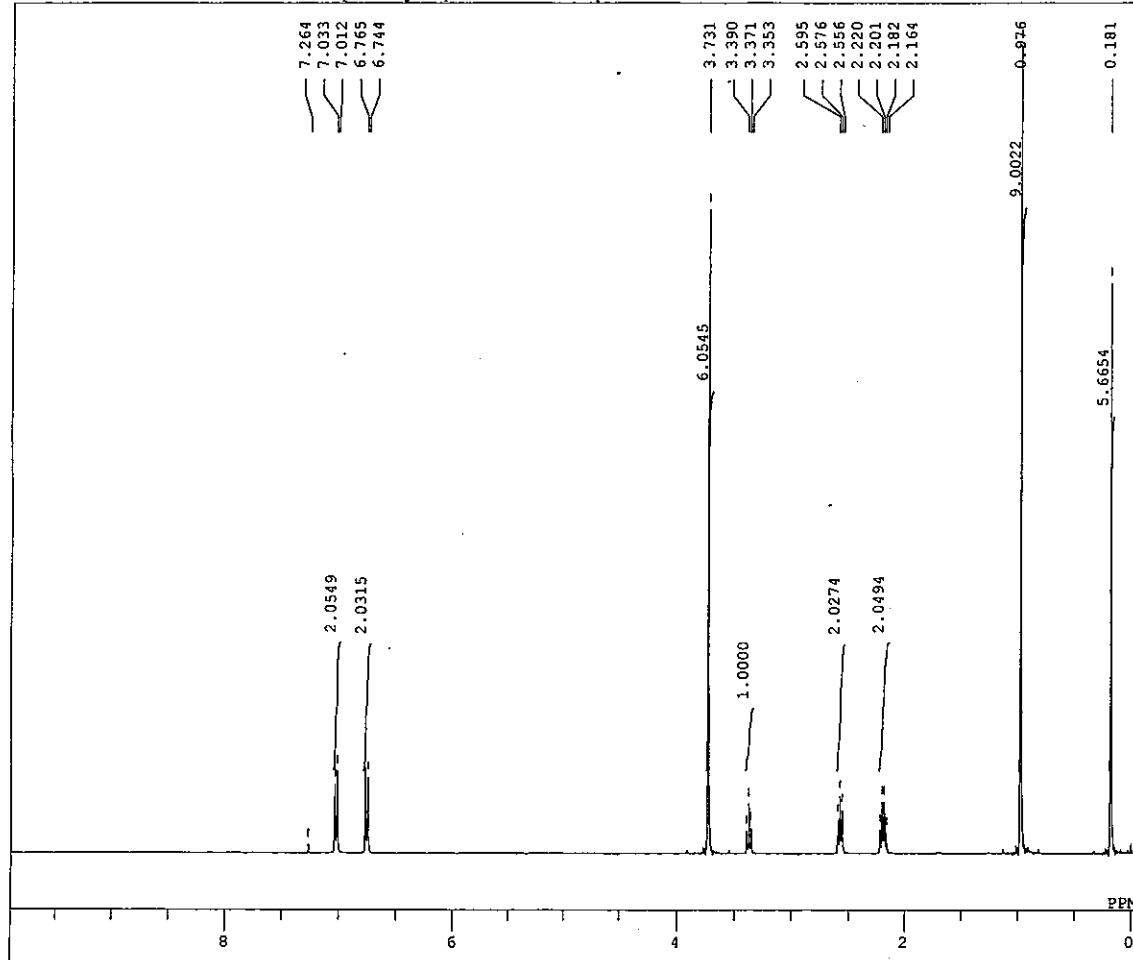


DFILE ykyk05-338-13c 1.als
 COMNT ykyk05-338-13c
 DATIM 30-MAR-2010 03:36:33
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 121
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

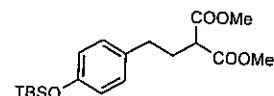
¹³C NMR: 3d

YKYI-p8-mal-3-1H

G:\NMR\12<81\2008"N"x\lf-N\ -q-p8il-Uj\L p8-malonnate\YI-p8-malonnate-3-1H 1.als



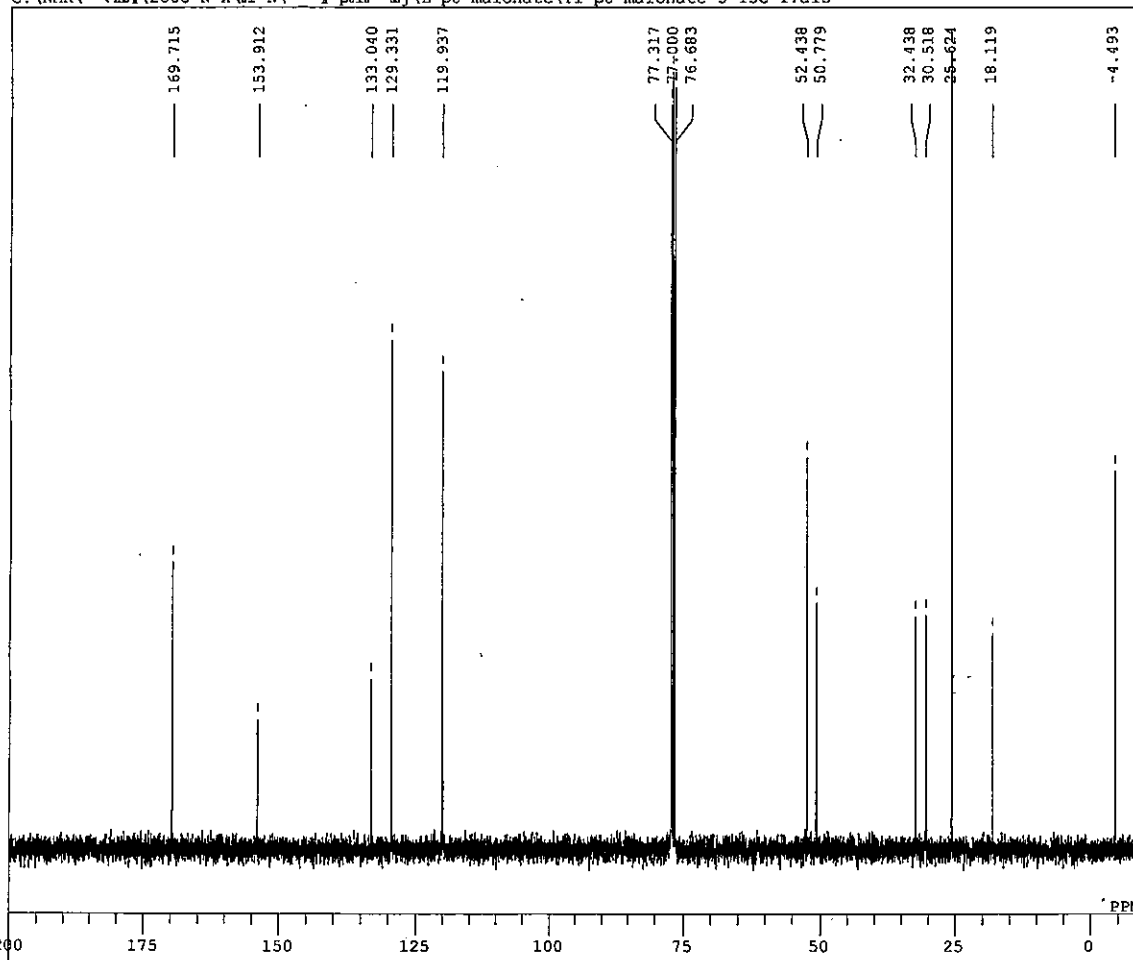
DFILE YI-p8-malonnate-3-1H 1.als
COMNT YKYI-p8-mal-3-1H
DATIM 1-DEC-2008 17:34:34
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.70 usec
IRNUC 1H
CTEMP 18.7 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 9



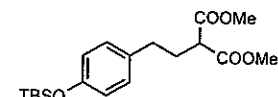
¹H-NMR: S-29

YKYI-p8-mal-3-13C

G:\NMR\12<81\2008"N"x\lf-N\ -q-p8il-Uj\L p8-malonnate\YI-p8-malonnate-3-13C 1.als



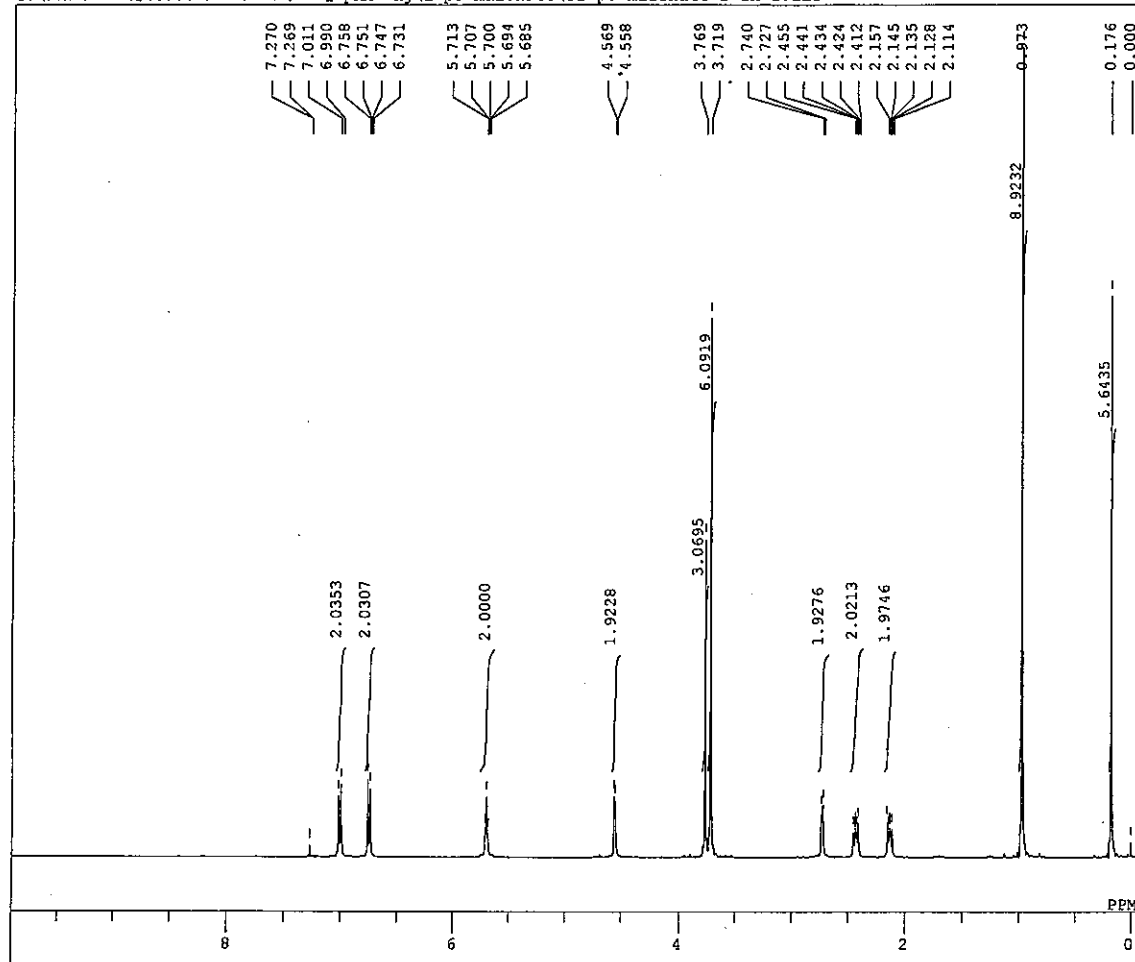
DFILE YI-p8-malonnate-3-13C 1.als
COMNT YKYI-p8-mal-3-13C
DATIM 1-DEC-2008 17:48:50
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 164
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 13C
CTEMP 20.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



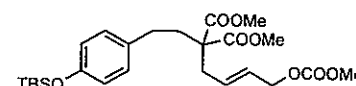
¹³C NMR: S-29

YKYI-p8-mal-2-1H

G:\NMR\12<2008"N"x\p8-mal-2-1H\p8-mal-2-1H 1.als



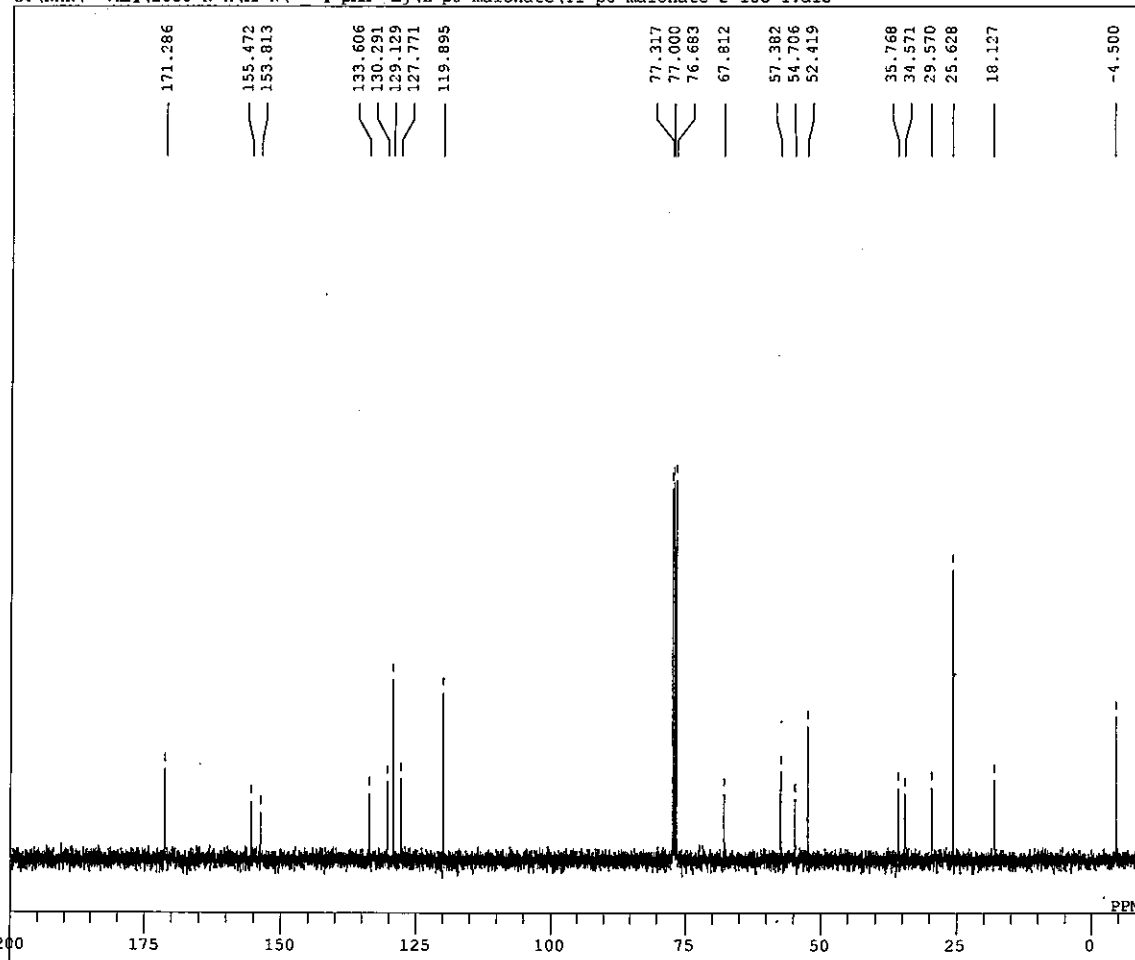
DFILE YI-p8-mal-2-1H_1.als
COMNT YKYI-p8-mal-2-1H
DATIM 4-DEC-2008 18:40:29
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 8
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.70 usec
IRNUC 1H
CTEMP 18.8 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 10



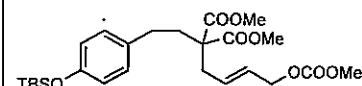
¹H-NMR: S-30

YKYI-p8-mal-2-13C

G:\NMR\12<2008"N"x\p8-mal-2-13C\p8-mal-2-13C 1.als



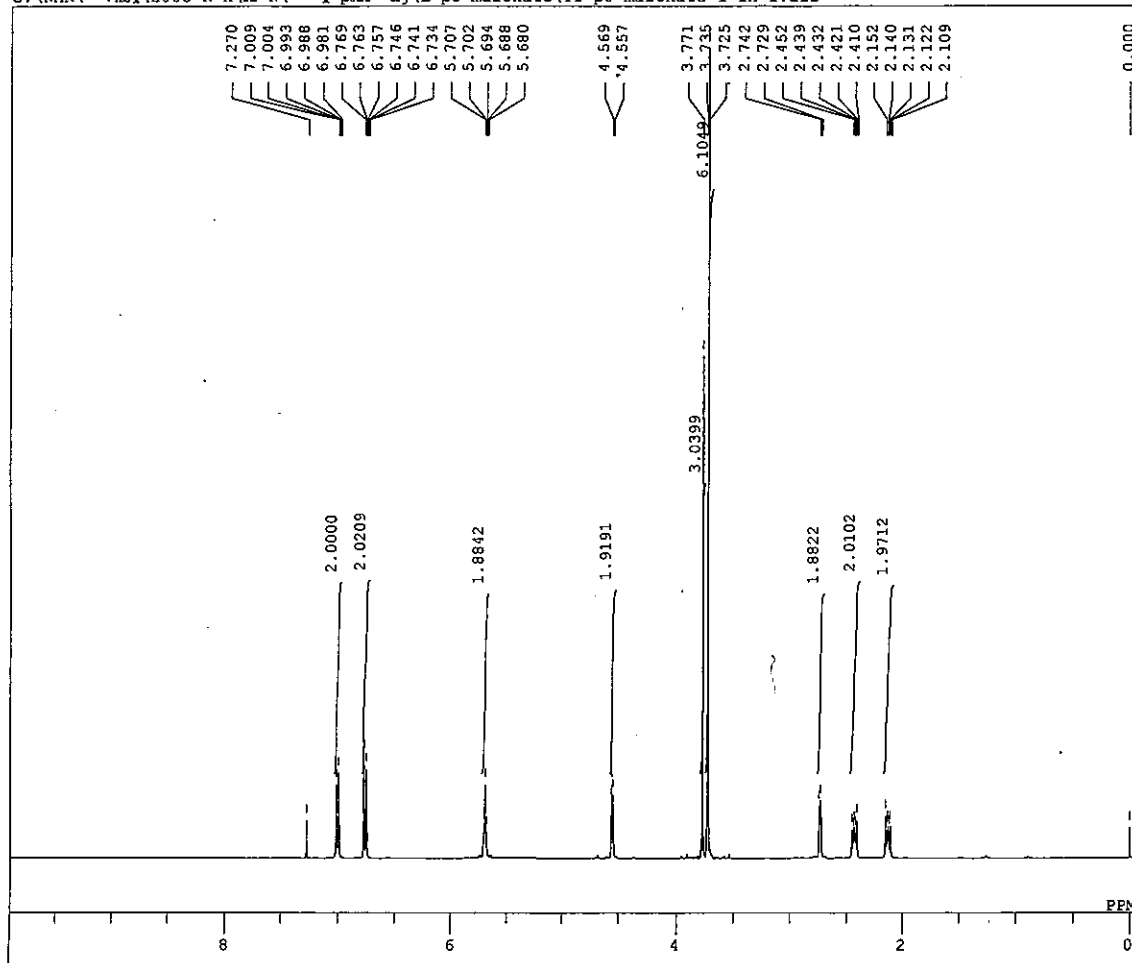
DFILE YI-p8-mal-2-13C_1.als
COMNT YKYI-p8-mal-2-13C
DATIM 4-DEC-2008 18:51:22
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 107
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 13C
CTEMP 20.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 26



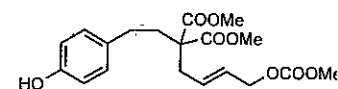
¹³C NMR: S-30

YKYI-p8-mal-1

G:\NMR\12<2008"N"x\11-N\~ •T-p8ilj~L p8-malonate\YI-p8-malonate-1-1H 1.als



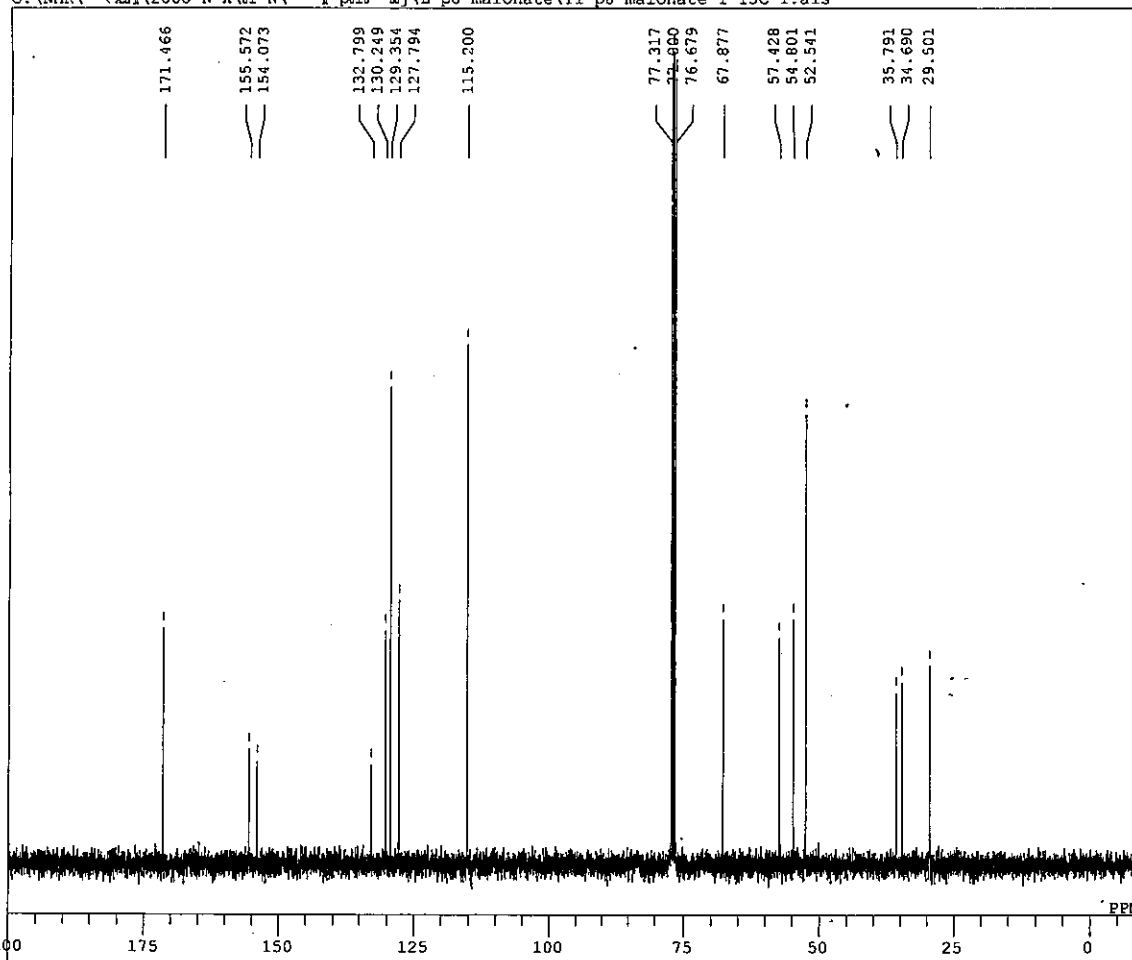
DFILE YI-p8-malonate-1-1H_1.als
 COMNT YKYI-p8-mal-1
 DATIM 5-DEC-2008 18:34:43
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.70 usec
 IRNUC 1H
 CTEMP 18.4 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 12



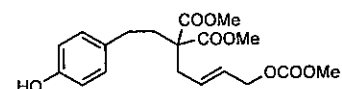
¹H-NMR: 7

YKYI-p8-mal-1-13C

G:\NMR\12<2008"N"x\11-N\~ •T-p8ilj~L p8-malonate\YI-p8-malonate-1-13C 1.als



DFILE YI-p8-malonate-1-13C_1.als
 COMNT YKYI-p8-mal-1-13C
 DATIM 5-DEC-2008 18:41:45
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 73
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 20.1 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26



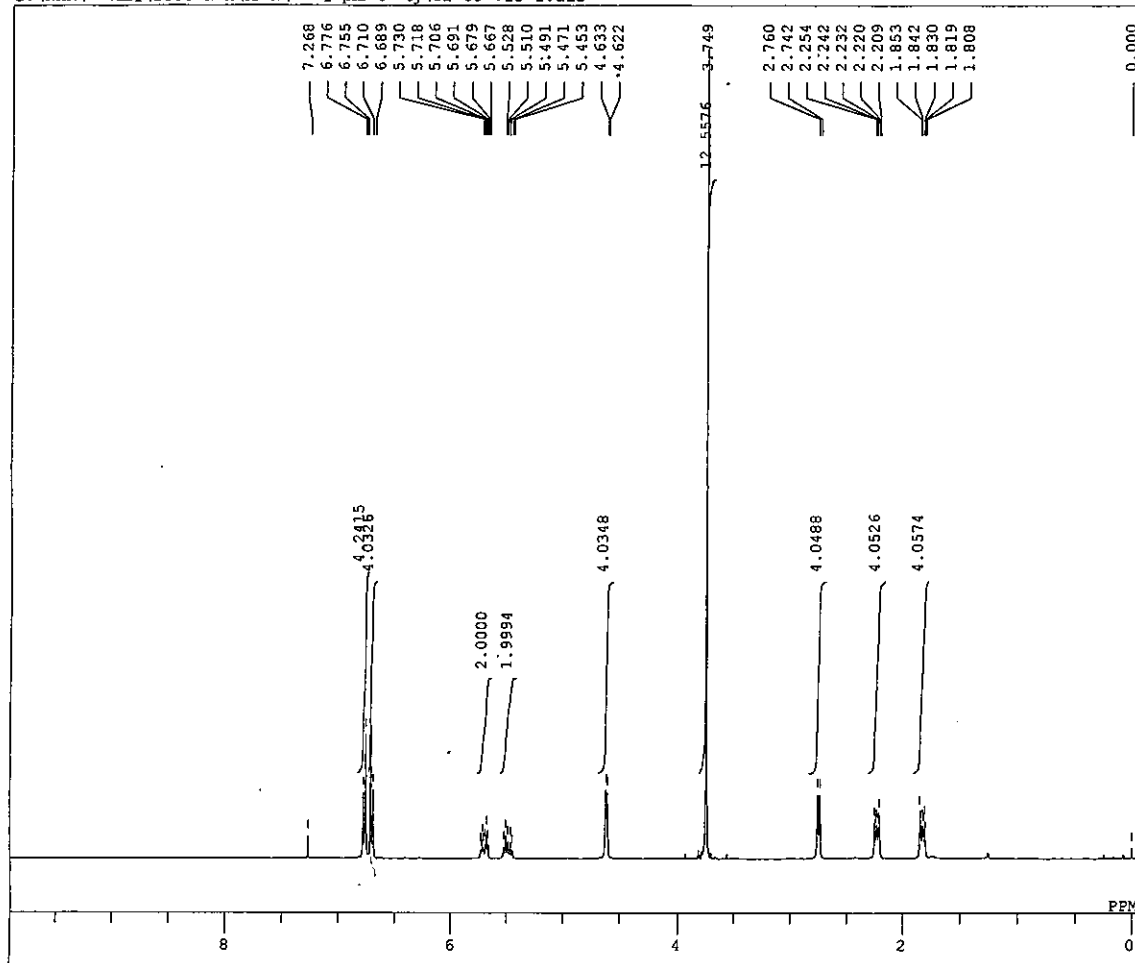
¹³C NMR: 7

page

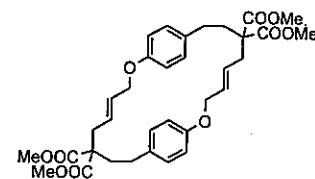
5-87

YKYI-09-713

G:\NMR\12<2008"N"x\01-N\ -1-pli-0-Tj\YI-09-713 1.als

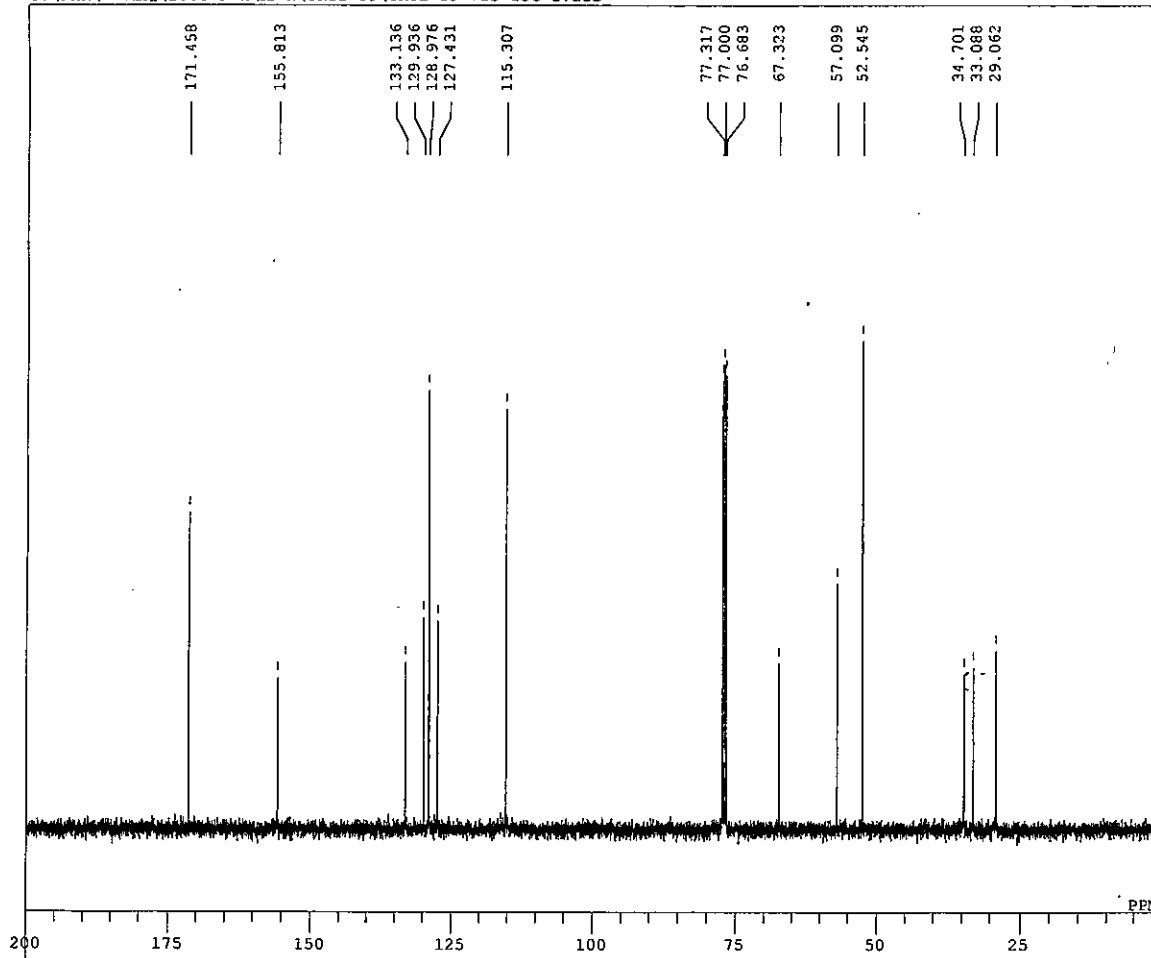


DFILE YI-09-713 1.als
 COMNT YKYI-09-713
 DATIM 14-FEB-2009 18:28:36
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 8
 ACQTM 5.4624 sec
 PD 2.0000 sec
 FW1 6.70 usec
 IRNUC 1H
 CTEMP 18.6 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 12

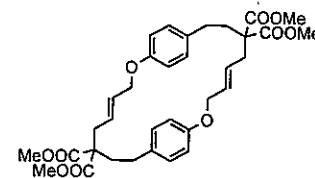
¹H NMR: 8

YKYI-09-713-13C

G:\NMR\12<2008"N"x\01-N\YKYI-09\YKYI-09-713-13C 2.als

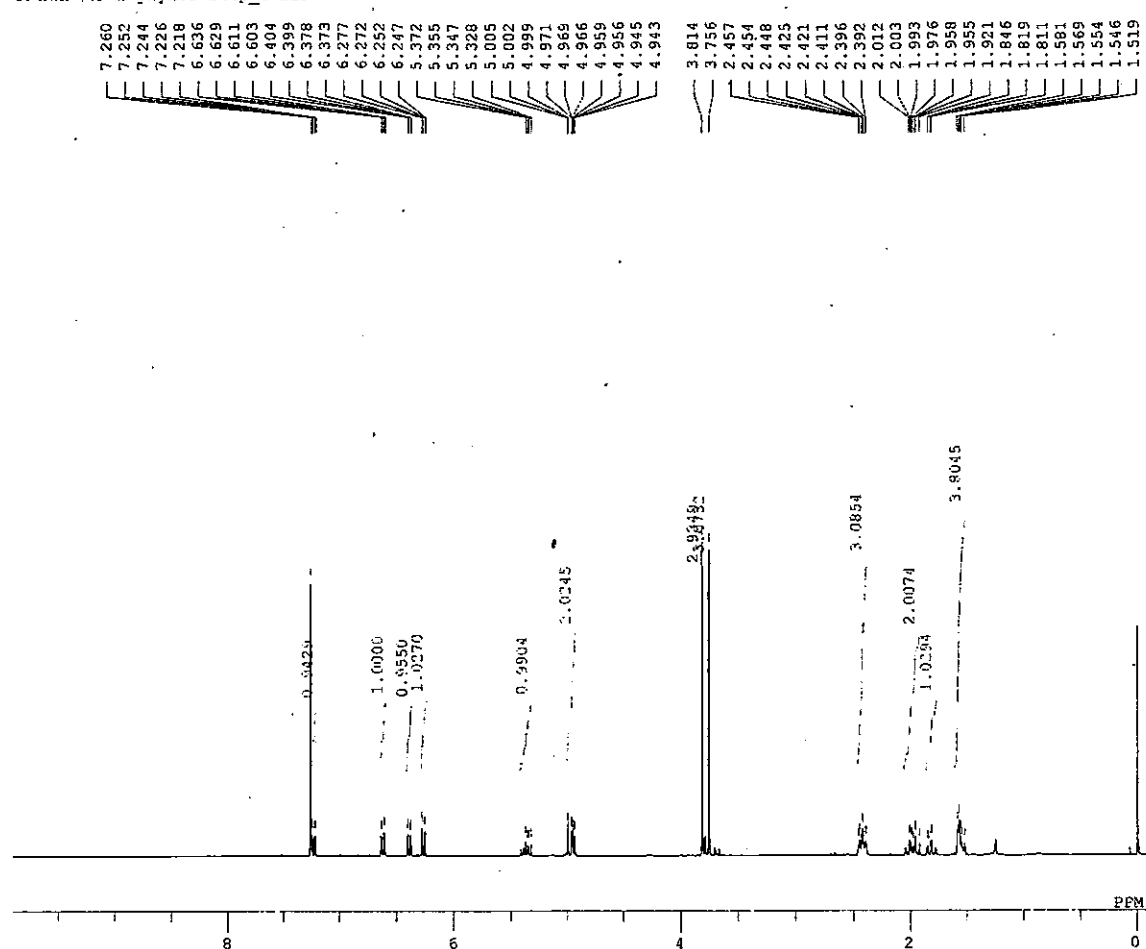


DFILE YKYI-09-713-13C 2.als
 COMNT YKYI-09-713-13C
 DATIM 14-FEB-2009 19:03:57
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 53
 ACQTM 2.6018 sec
 PD 1.5000 sec
 FW1 3.50 usec
 IRNUC 1H
 CTEMP 19.3 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 26

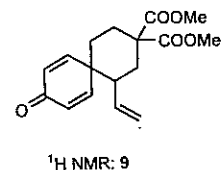
¹³C NMR: 8

ykyk05-344p

G:\NMR\1-1\ykyk05-344p_1.als

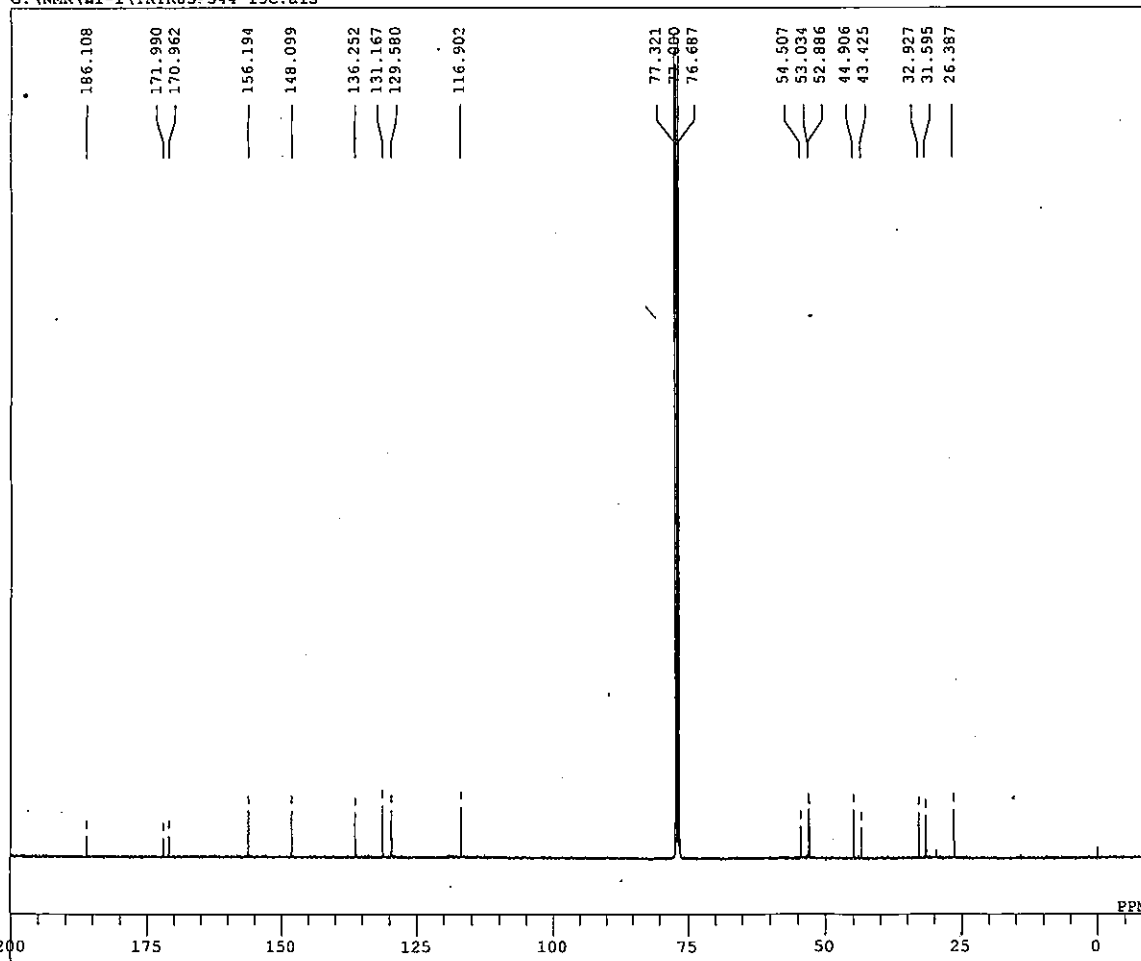


DFILE ykyk05-344p_1.als
COMNT ykyk05-344p
DATIM 16-JUL-2010 03:50:11
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 22.4 c
SLVNT CDCL3
EXREF 7.26 ppm
BF 0.12 Hz
RGAIN 18

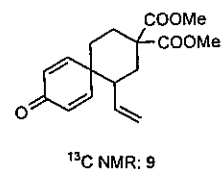


YKYK05-344-13C

G:\NMR\1-1\YKYK05-344-13C.als

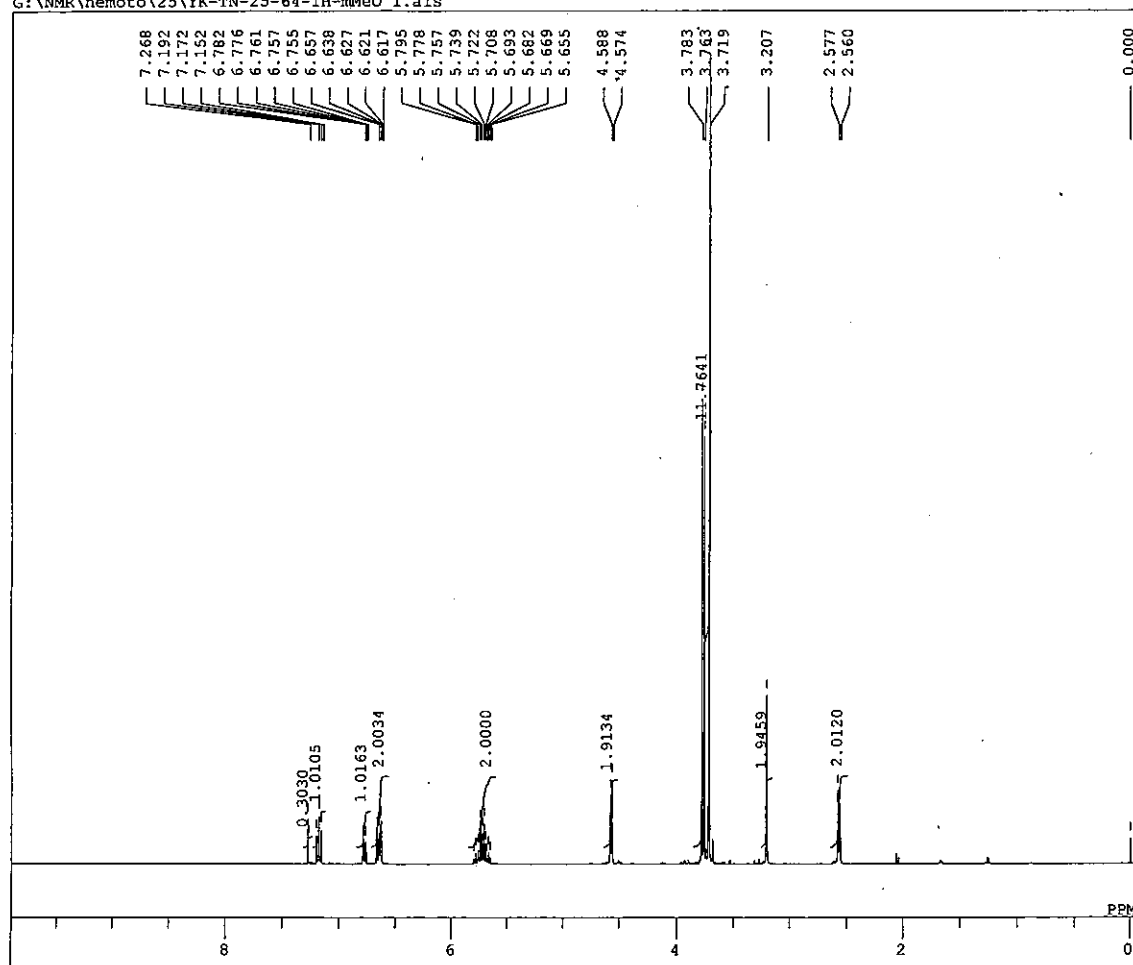


DFILE YKYK05-344-13C.als
COMNT YKYK05-344-13C
DATIM 2010-07-16 22:41:04
OBNUC 13C
EXMOD SINGL
OBFRQ 100.40 MHz
OBSET 130.00 KHz
OBFIN 5500.00 Hz
POINT 32768
FREQU 27100.27 Hz
SCANS 6802
ACQTM 1.2091 sec
PD 3.7000 sec
PW1 4.90 usec
IRNUC 1H
CTEMP 22.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

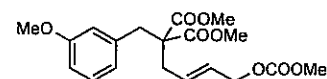


YK-TN-25-64-1H-mMeO

G:\NMR\nemoto\25\YK-TN-25-64-1H-mMeO 1.als

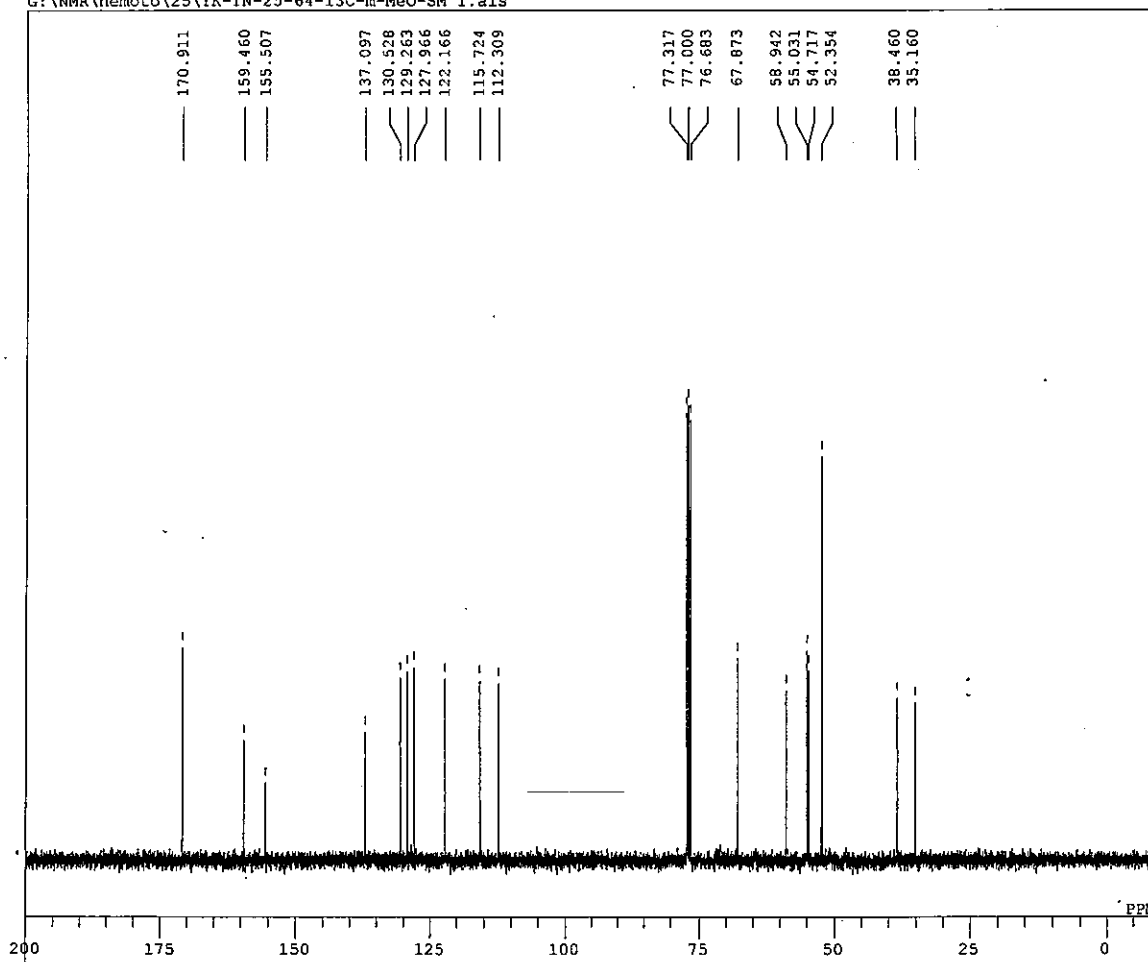


DFILE YK-TN-25-64-1H-mMeO 1.als
 COMNT YK-TN-25-64-1H-mMeO
 DATIM 13-FEB-2010 20:47:45
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 10
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 9

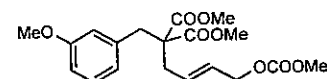
¹H-NMR: 5

YK-TN-25-64-13C-m-MeO-SM

G:\NMR\nemoto\25\YK-TN-25-64-13C-m-MeO-SM 1.als

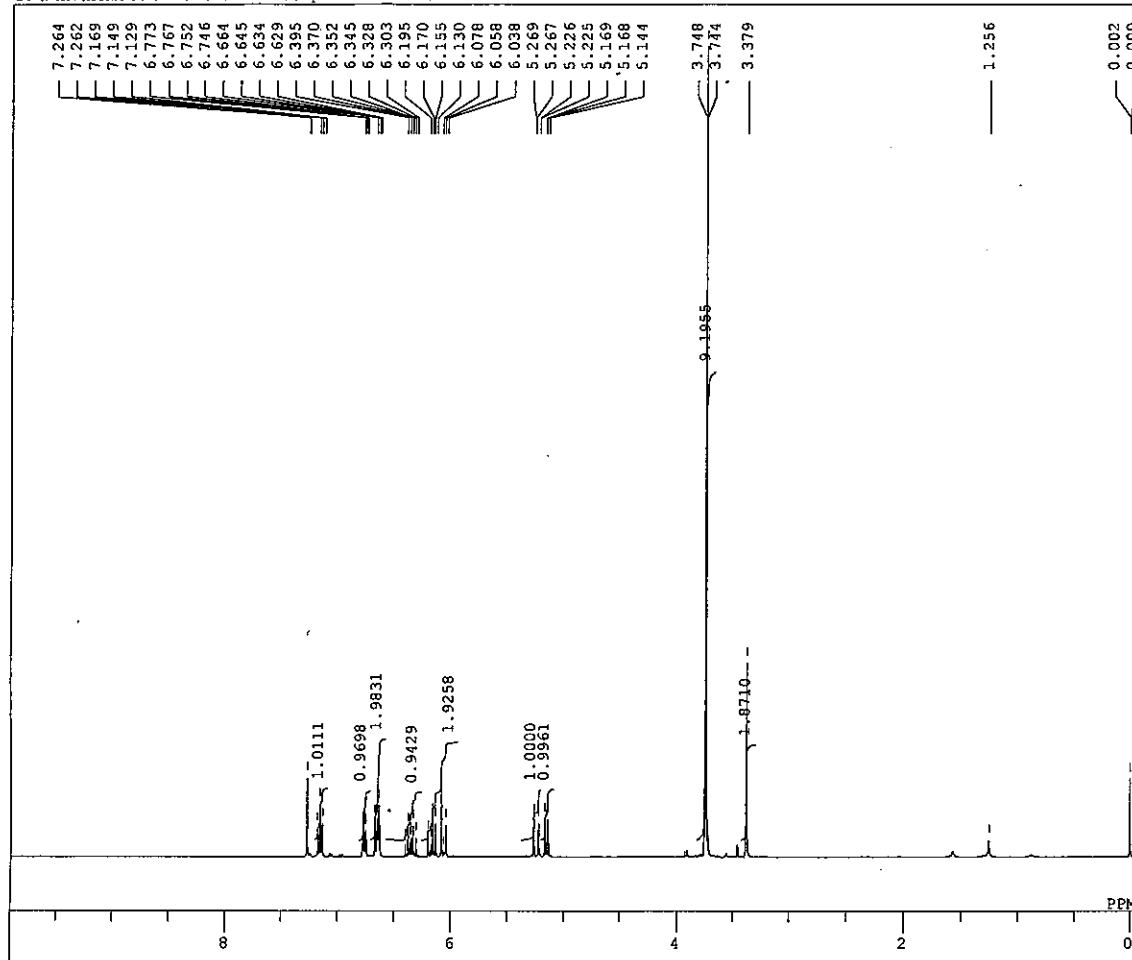


DFILE YK-TN-25-64-13C-m-MeO-SM 1.als
 COMNT YK-TN-25-64-13C-m-MeO-SM
 DATIM 13-FEB-2010 20:45:02
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 64
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 25.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

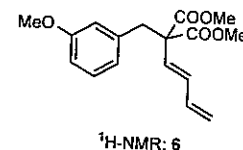
¹³C NMR: 5

YK-TN-25-66-product

G:\NMR\nemoto\25\YK-TN-25-66-product 1.als

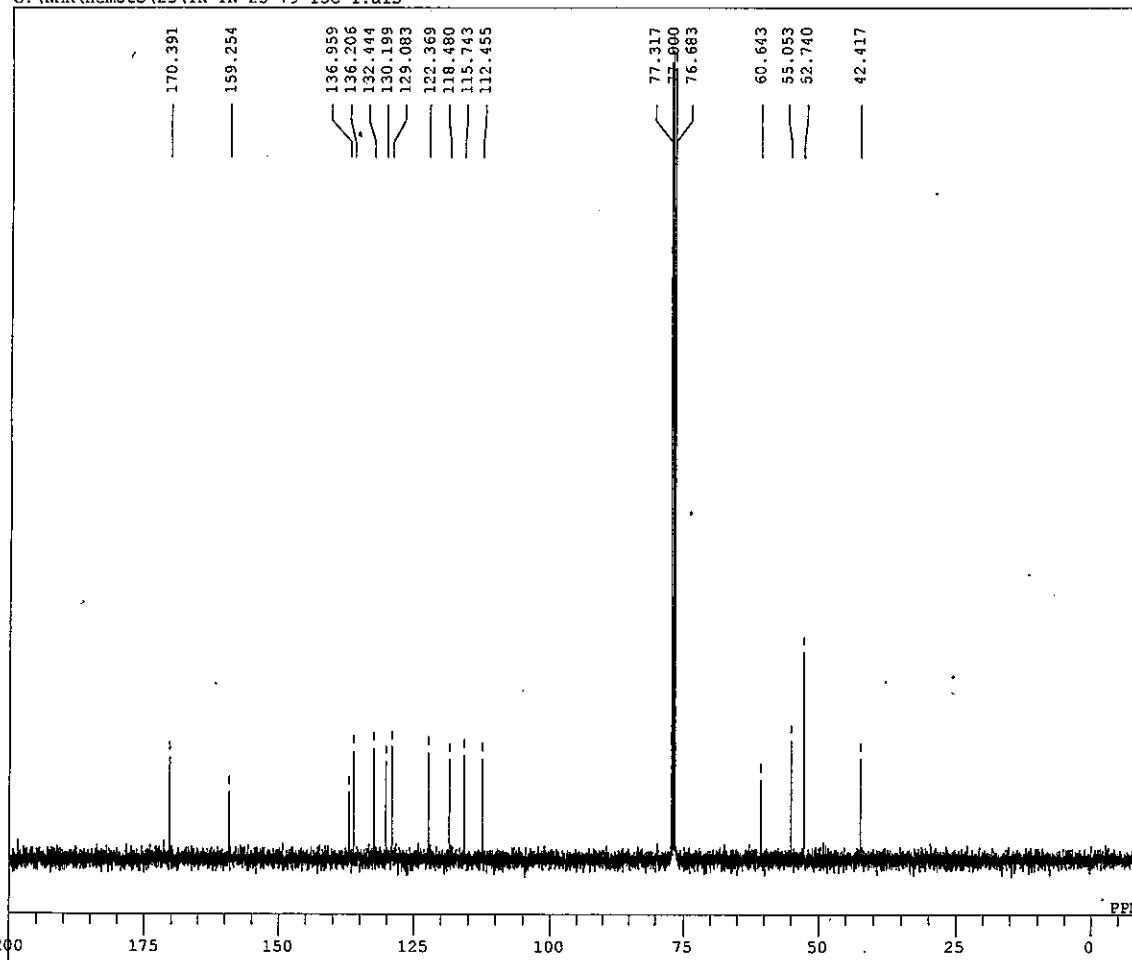


DFILE YK-TN-25-66-product_1.als
COMNT YK-TN-25-66-product
DATIM 7-FEB-2010 02:26:27
OBNUC 1H
EXMOD single pulse.exp
OBFREQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 7
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 19.2 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 14

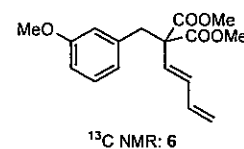


YK-TN-25-79-13C

G:\NMR\nemoto\25\YK-TN-25-79-13C 1.als

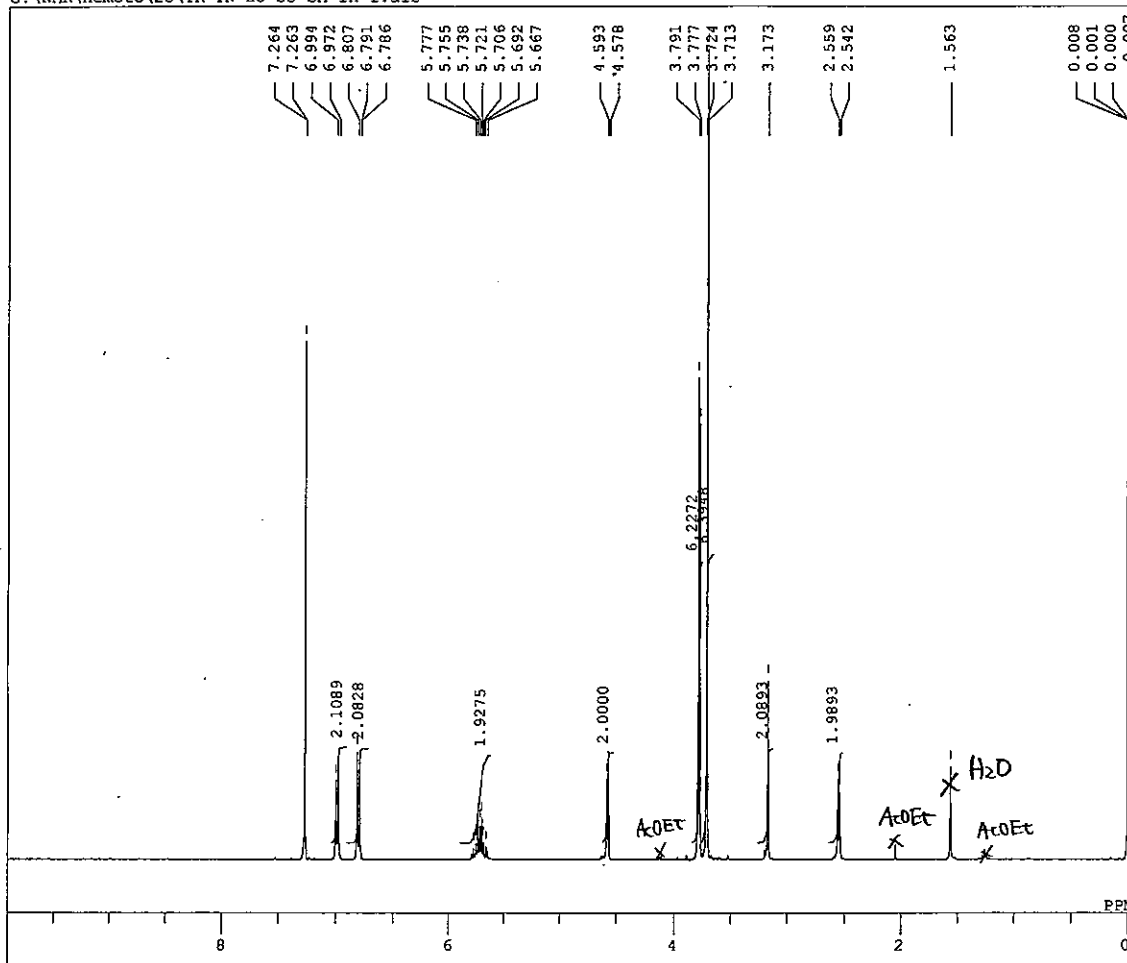


DFILE YK-TN-25-79-13C_1.als
COMNT YK-TN-25-79-13C
DATIM 13-FEB-2010 19:26:51
OBNUC 13C
EXMOD single pulse dec
OBFREQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 126
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 20.5 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24

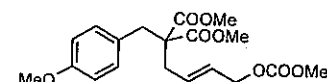


YK-TN-25-55-SM-1H

G:\NMR\nemoto\25\YK-TN-25-55-SM-1H 1.als

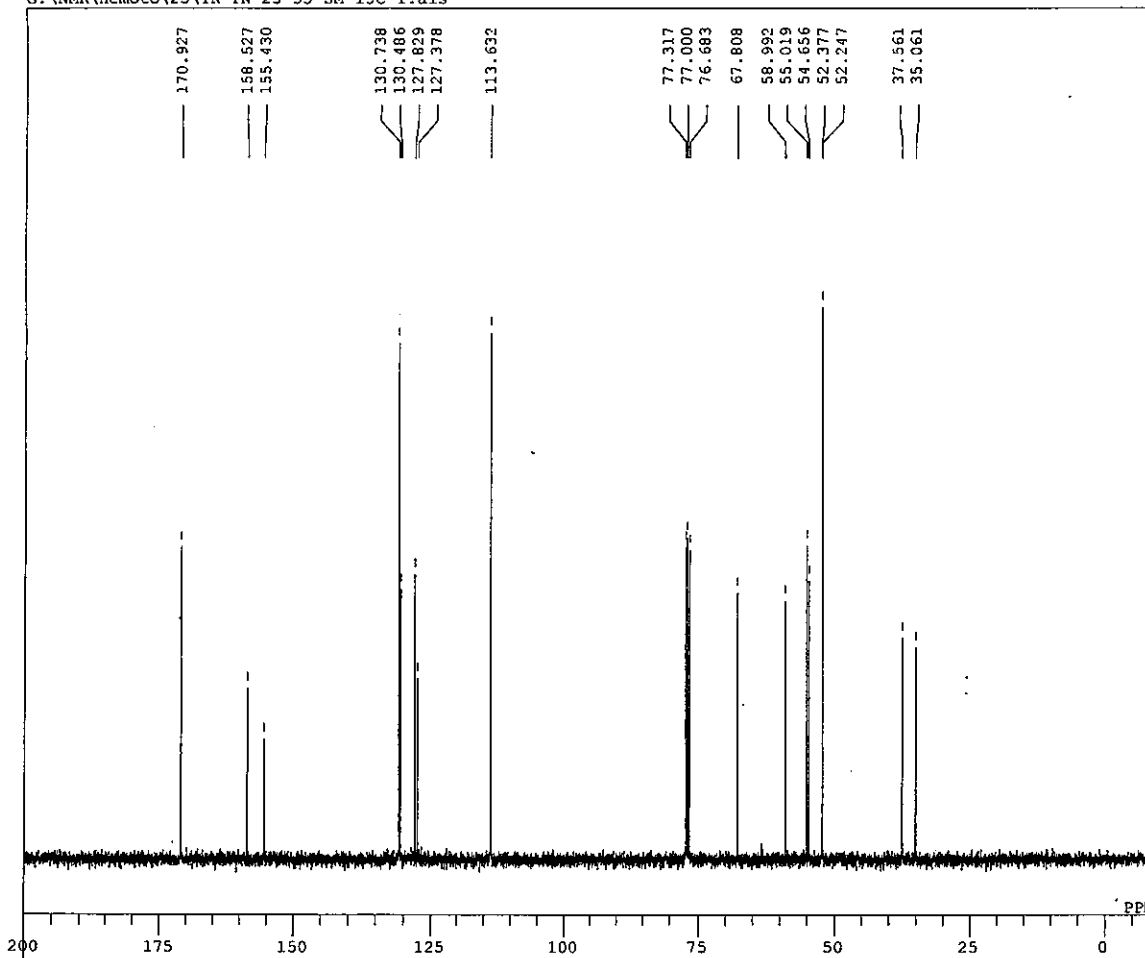


DFILE YK-TN-25-55-SM-1H 1.als
 COMNT YK-TN-25-55-SM-1H
 DATIM 14-FEB-2010 23:43:34
 OBNUC 1H
 EXMOD single_pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 7
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 19.5 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 18

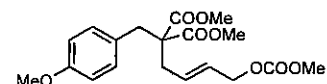
¹H-NMR: S-31

YK-TN-25-55-SM-13C

G:\NMR\nemoto\25\YK-TN-25-55-SM-13C 1.als

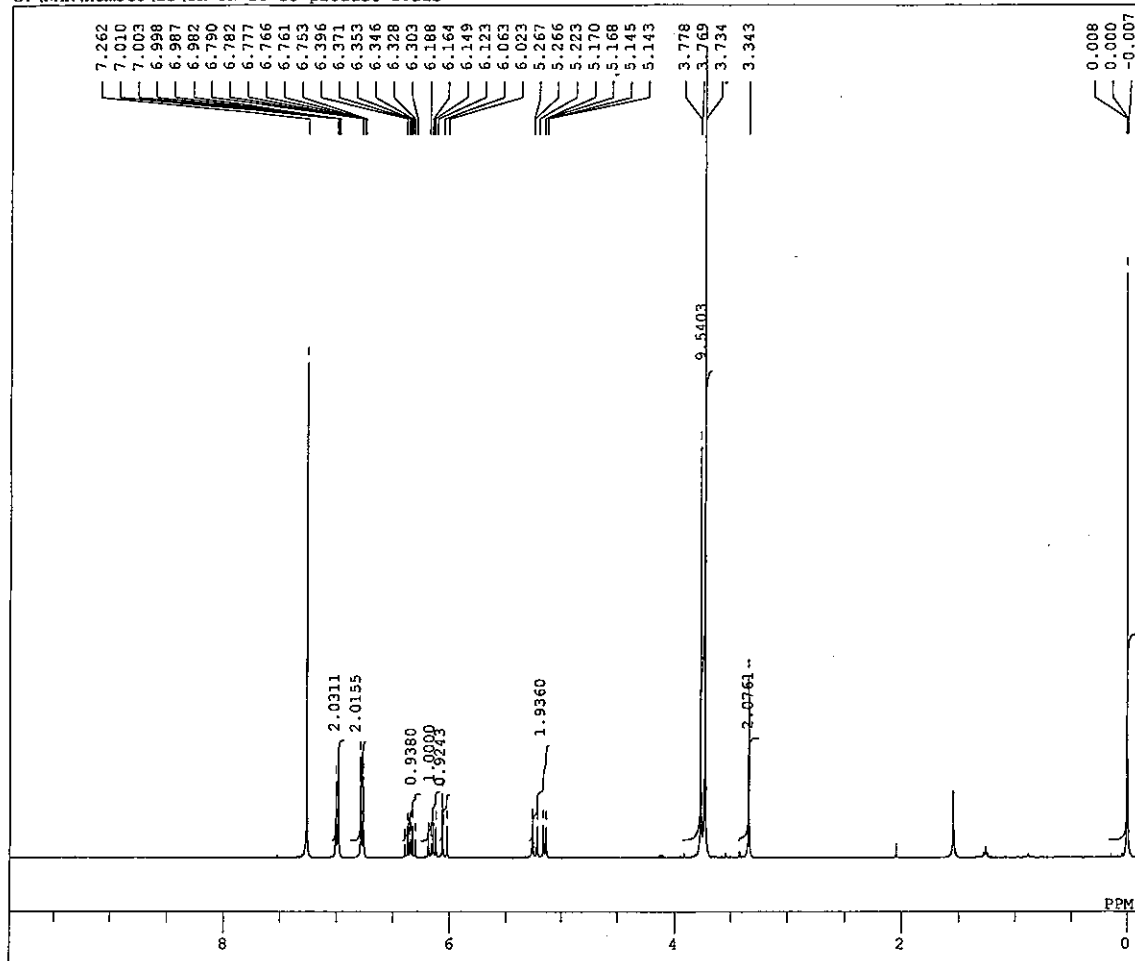


DFILE YK-TN-25-55-SM-13C 1.als
 COMNT YK-TN-25-55-SM-13C
 DATIM 14-FEB-2010 23:49:35
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 40
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 20.6 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

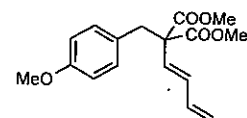
¹³C NMR: S-31

YK-TN-25-55-crude

G:\NMR\nemoto\25\YK-TN-25-55-product 1.als



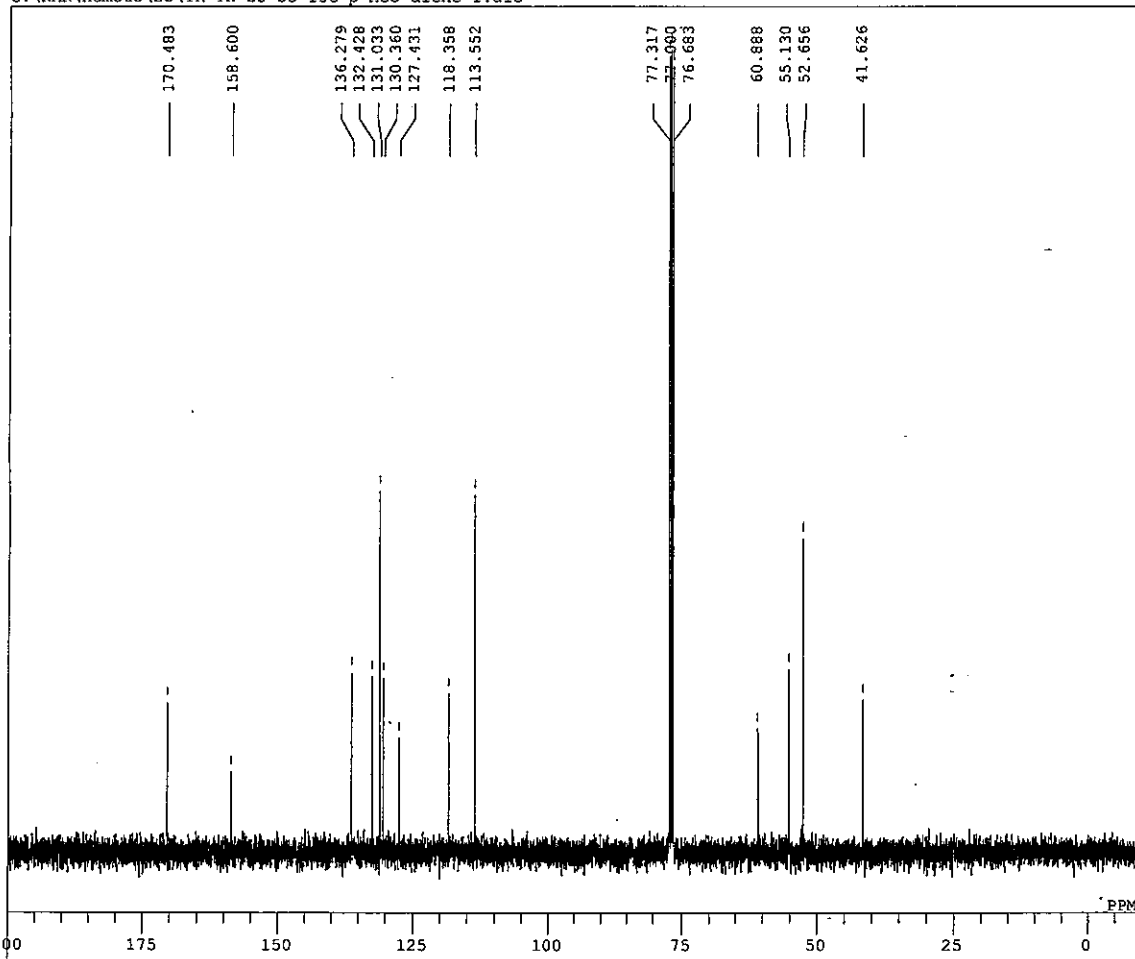
DFILE YK-TN-25-55-product_1.als
COMNT YK-TN-25-55-crude
DATIM 30-JAN-2010 02:11:46
OBNUC 1H
EXMOD single_pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
FW1 6.70 usec
IRNUC 1H
CTEMP 20.9 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 20



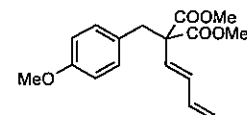
¹H-NMR: S-32

YK-TN-25-55-13C-p-MeO-diene

G:\NMR\nemoto\25\YK-TN-25-55-13C-p-MeO-diene 1.als



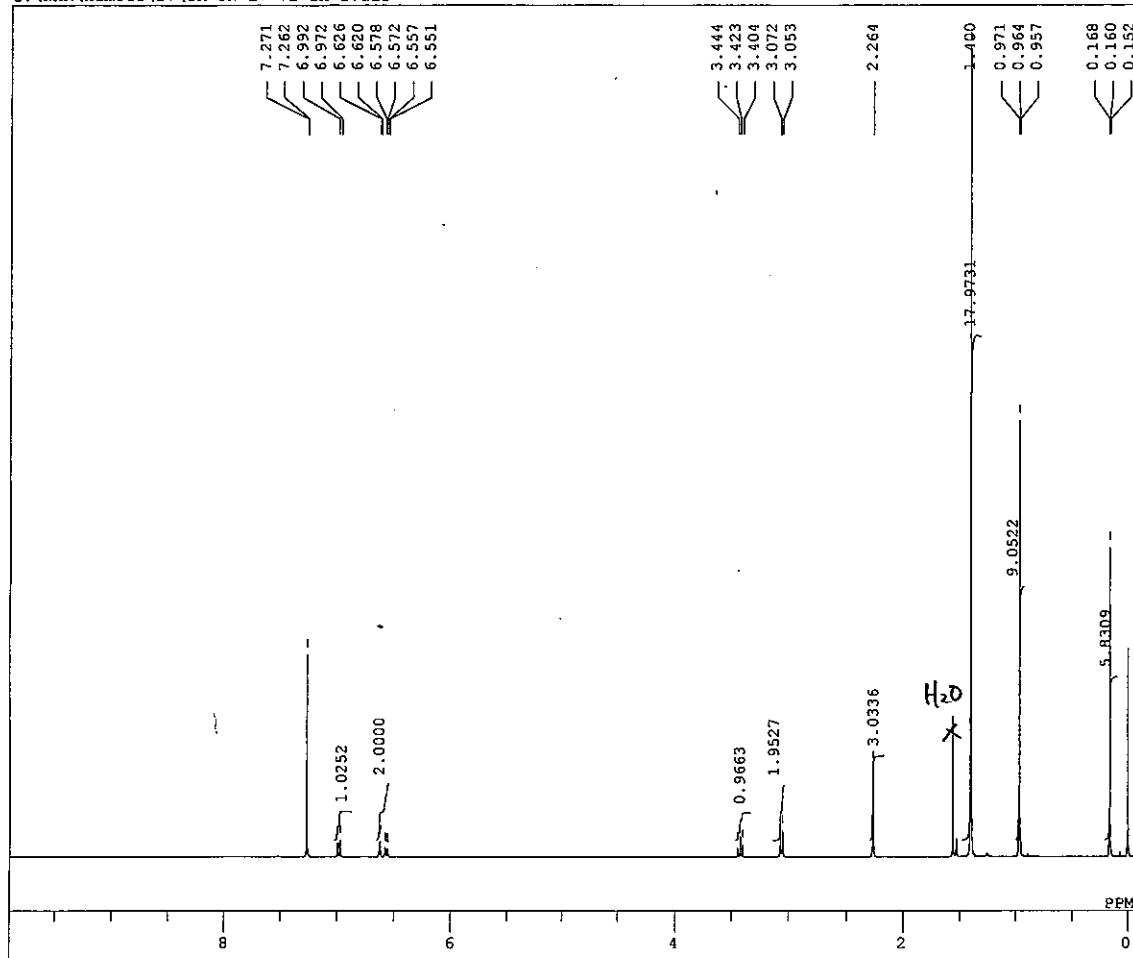
DFILE YK-TN-25-55-13C-p-MeO-diene
COMNT YK-TN-25-55-13C-p-MeO-diene
DATIM 13-FEB-2010 20:37:21
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 71
ACQTM 2.6018 sec
PD 1.5000 sec
FW1 3.50 usec
IRNUC 1H
CTEMP 25.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23



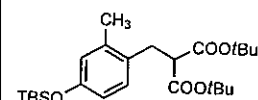
¹³C NMR: S-32

YK-TN-27-71-1H

G:\NMR\nemoto\27\YK-TN-27-71-1H 1.als

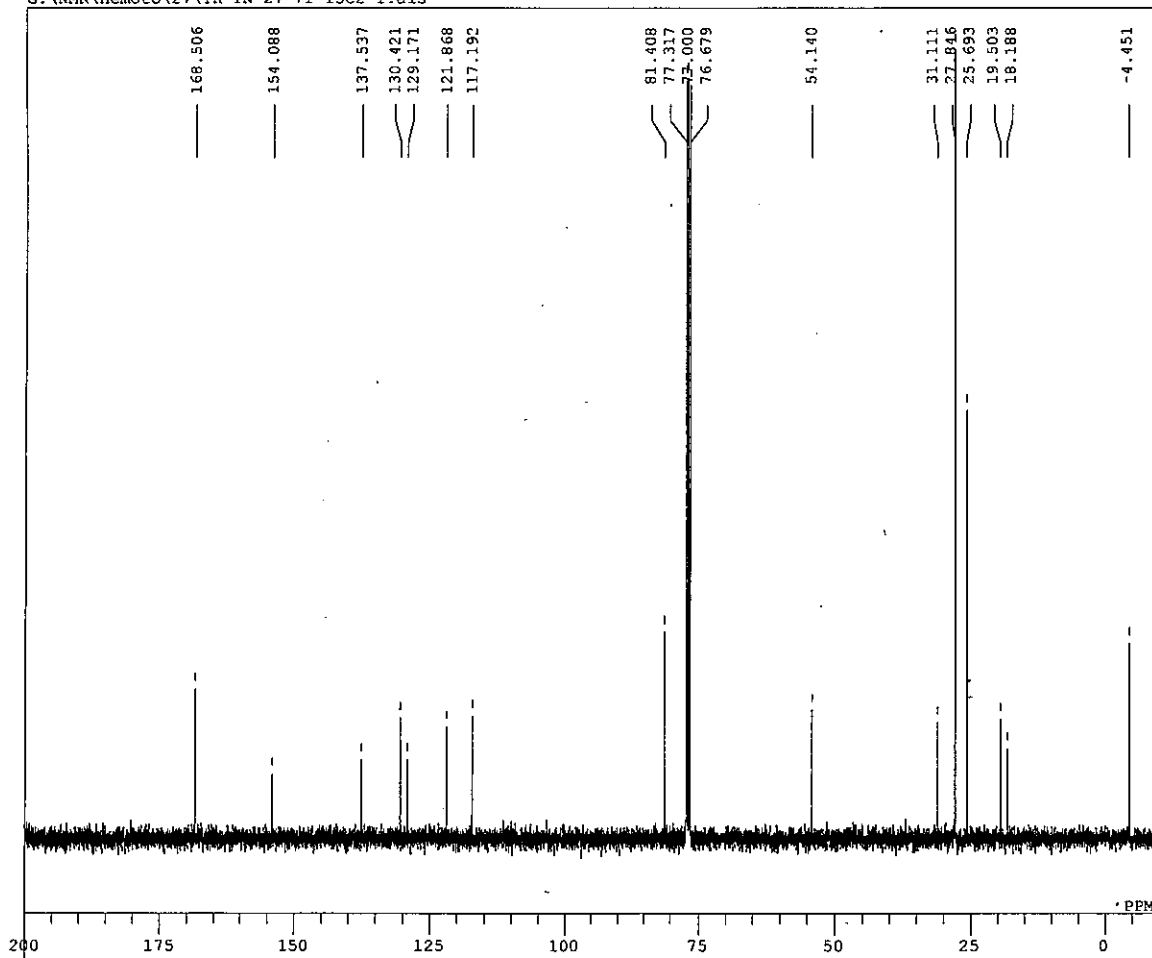


DFILE YK-TN-27-71-1H 1.als
 COMNT YK-TN-27-71-1H
 DATIM 18-AUG-2010 22:25:23
 OBNUC 1H
 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 21.7 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 18

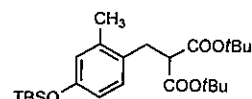
¹H NMR: s-33

YK-TN-27-71-13C2

G:\NMR\nemoto\27\YK-TN-27-71-13C2 1.als

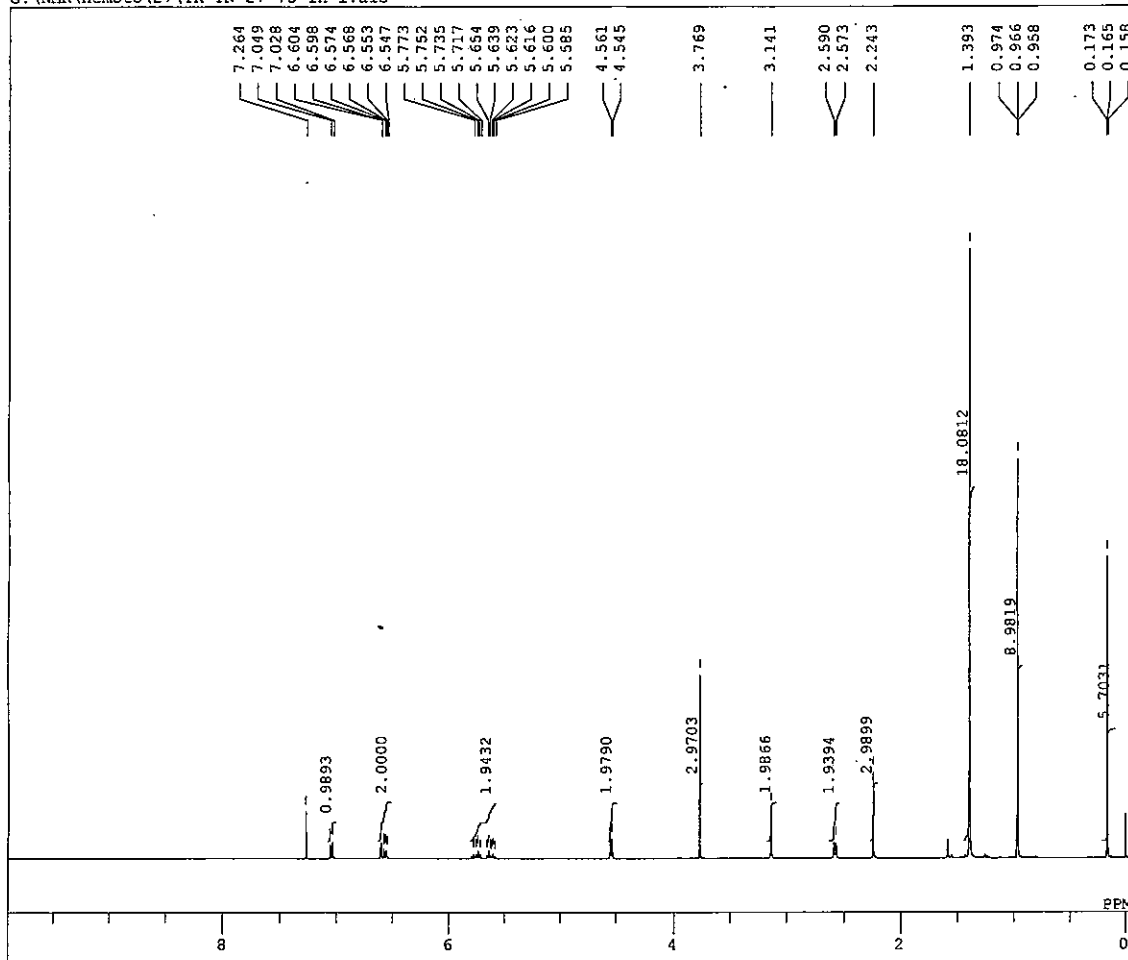


DFILE YK-TN-27-71-13C2 1.als
 COMNT YK-TN-27-71-13C2
 DATIM 18-AUG-2010 22:39:19
 OBNUC 13C
 EXMOD single pulse dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 98
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 23.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 24

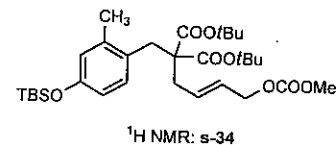
¹³C NMR: s-33

YK-TN-27-75-1H

G:\NMR\nemoto\27\YK-TN-27-75-1H 1.als

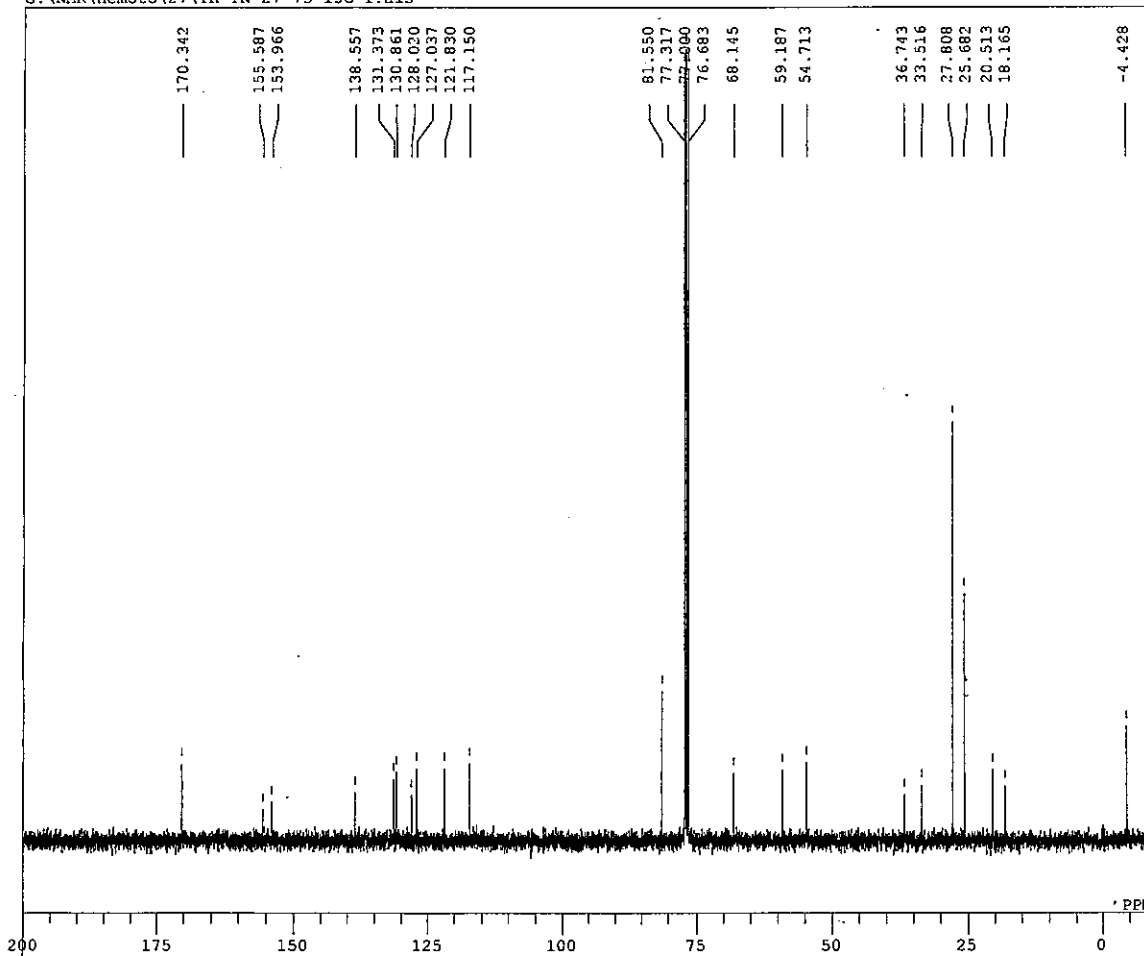


DFILE YK-TN-27-75-1H 1.als
 COMNT YK-TN-27-75-1H
 DATIM 19-AUG-2010 23:22:51
 OBNUC 1H
 EXMOD single pulse.exp
 OBFRQ 399.00 MHz
 OBSET 784.00 KHz
 OBFIN 597.07 Hz
 POINT 32768
 FREQU 5998.80 Hz
 SCANS 16
 ACQTM 5.4624 sec
 PD 2.0000 sec
 PW1 6.85 usec
 IRNUC 1H
 CTEMP 22.2 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 13

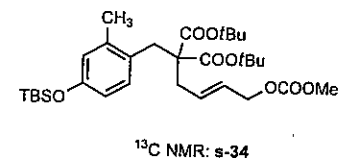


YK-TN-27-75-13C

G:\NMR\nemoto\27\YK-TN-27-75-13C 1.als

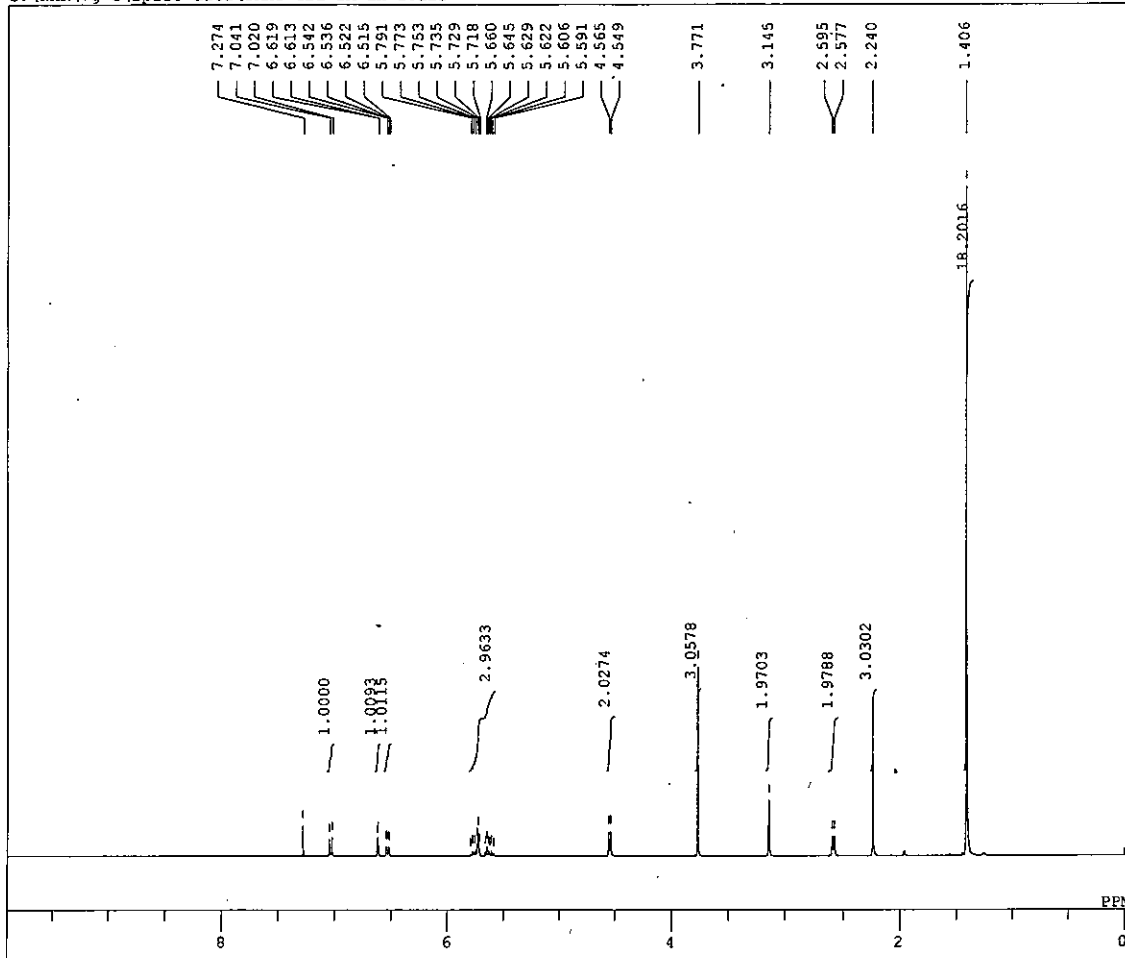


DFILE YK-TN-27-75-13C 1.als
 COMNT YK-TN-27-75-13C
 DATIM 19-AUG-2010 23:18:55
 OBNUC 13C
 EXMOD single pulse dec
 OBFRQ 100.00 MHz
 OBSET 536.00 KHz
 OBFIN 361.11 Hz
 POINT 65536
 FREQU 25188.92 Hz
 SCANS 161
 ACQTM 2.6018 sec
 PD 1.5000 sec
 PW1 3.50 usec
 IRNUC 1H
 CTEMP 23.3 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 23

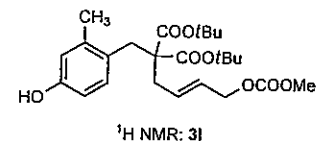


YKMY-tBu-SM-1H

G:\NMR\g"c\spiro data\YKMY-tBu-SM-1H 1.als

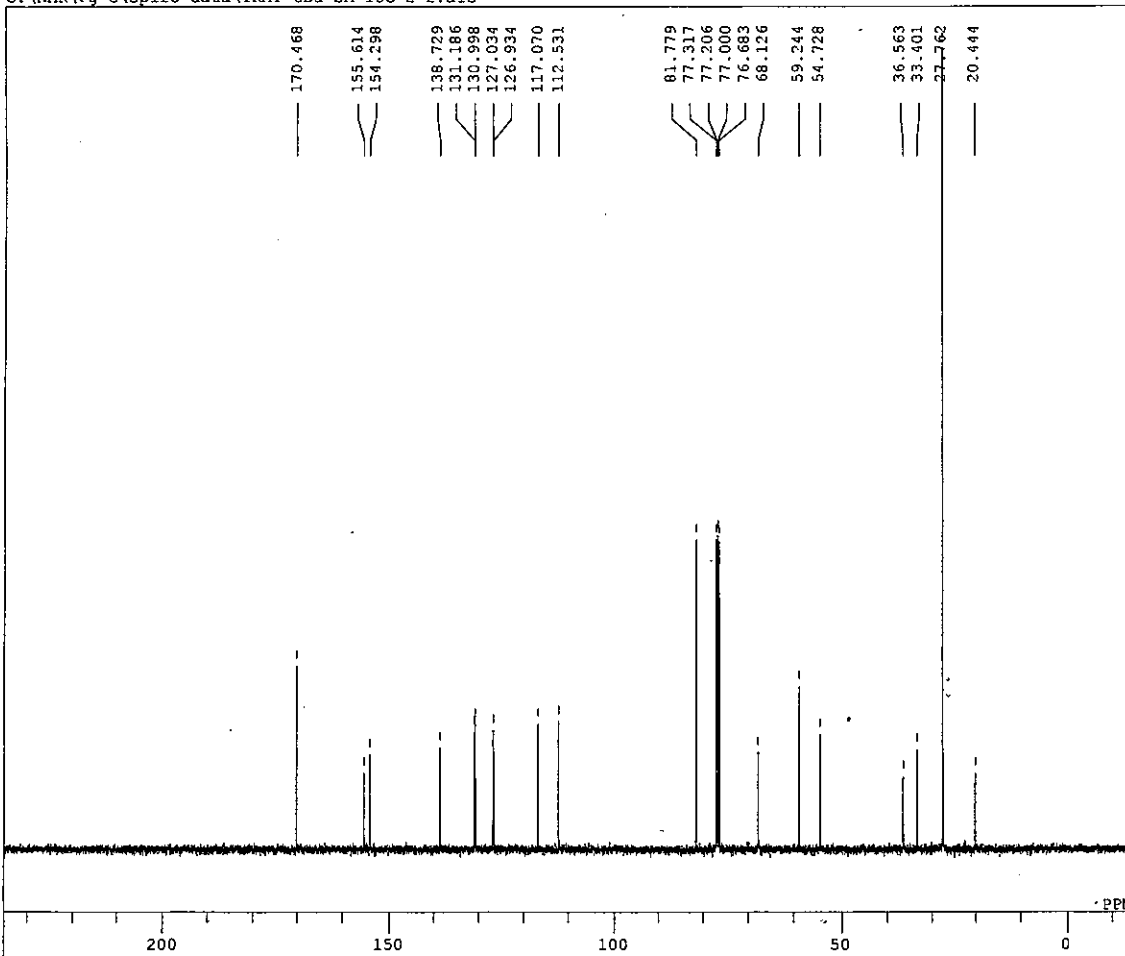


DFILE YKMY-tBu-SM-1H 1.als
COMNT YKMY-tBu-SM-1H
DATIM 17-AUG-2010 17:06:24
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PW1 6.85 usec
IRNUC 1H
CTEMP 22.6 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 13

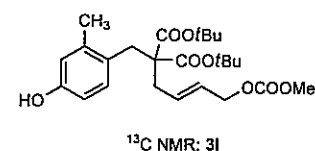


YKMY-tBu-SM-13C-2

G:\NMR\g"c\spiro data\YKMY-tBu-SM-13C-2 2.als

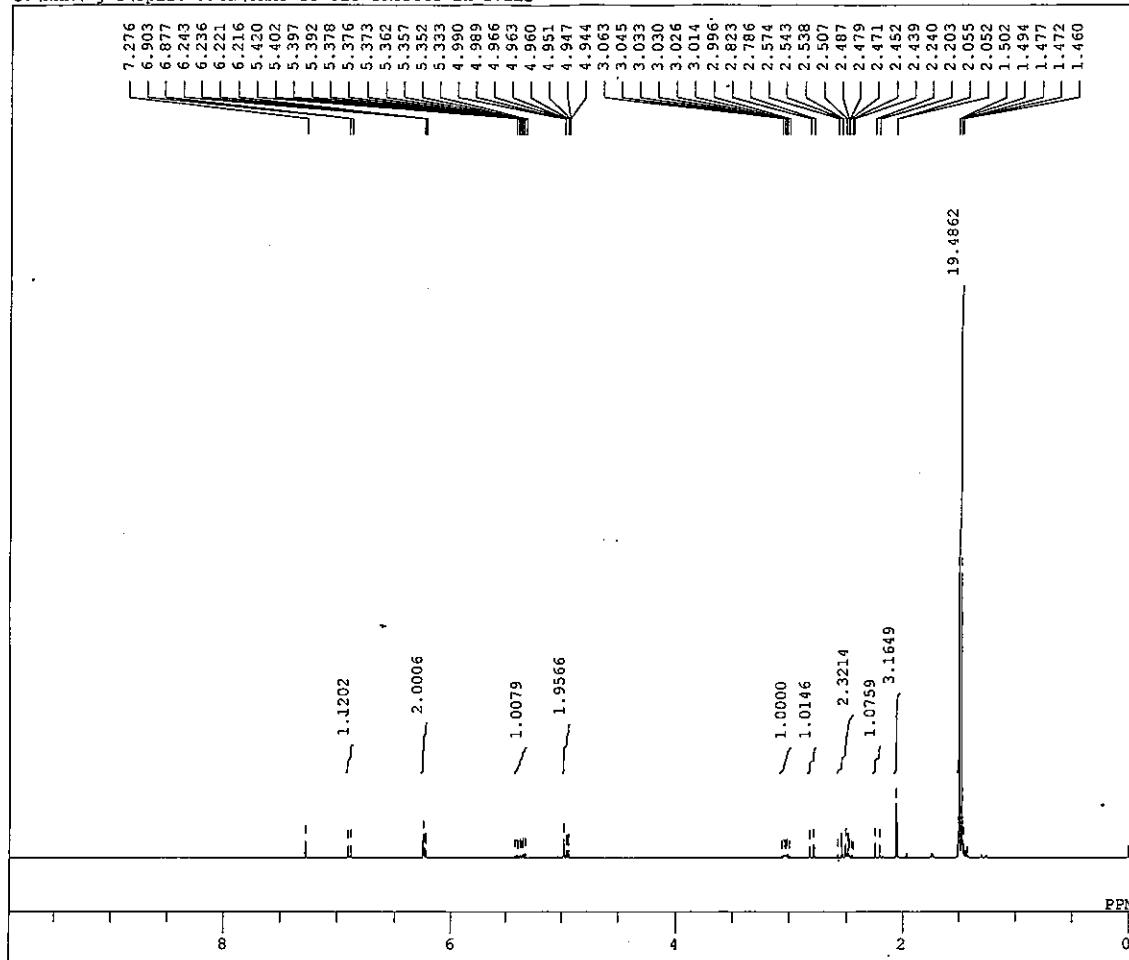


DFILE YKMY-tBu-SM-13C-2 2.als
COMNT YKMY-tBu-SM-13C-2
DATIM 17-AUG-2010 17:27:50
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 115
ACQTM 2.6018 sec
PD 1.5000 sec
PW1 3.50 usec
IRNUC 1H
CTEMP 23.1 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 23

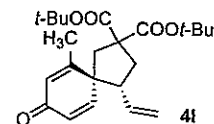


YKMY-13-518-PRODUCT-1H

G:\NMR\g\c\spiro data\YKMY-13-518-PRODUCT-1H 1.als



DFILE YKMY-13-518-PRODUCT-1H 1.als
COMNT YKMY-13-518-PRODUCT-1H
DATIM 22-AUG-2010 16:42:30
OBNUC 1H
EXMOD single pulse.exp
OBFRQ 399.00 MHz
OBSET 784.00 KHz
OBFIN 597.07 Hz
POINT 32768
FREQU 5998.80 Hz
SCANS 16
ACQTM 5.4624 sec
PD 2.0000 sec
PWL 6.85 usec
IRNUC 1H
CTEMP 22.2 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 10

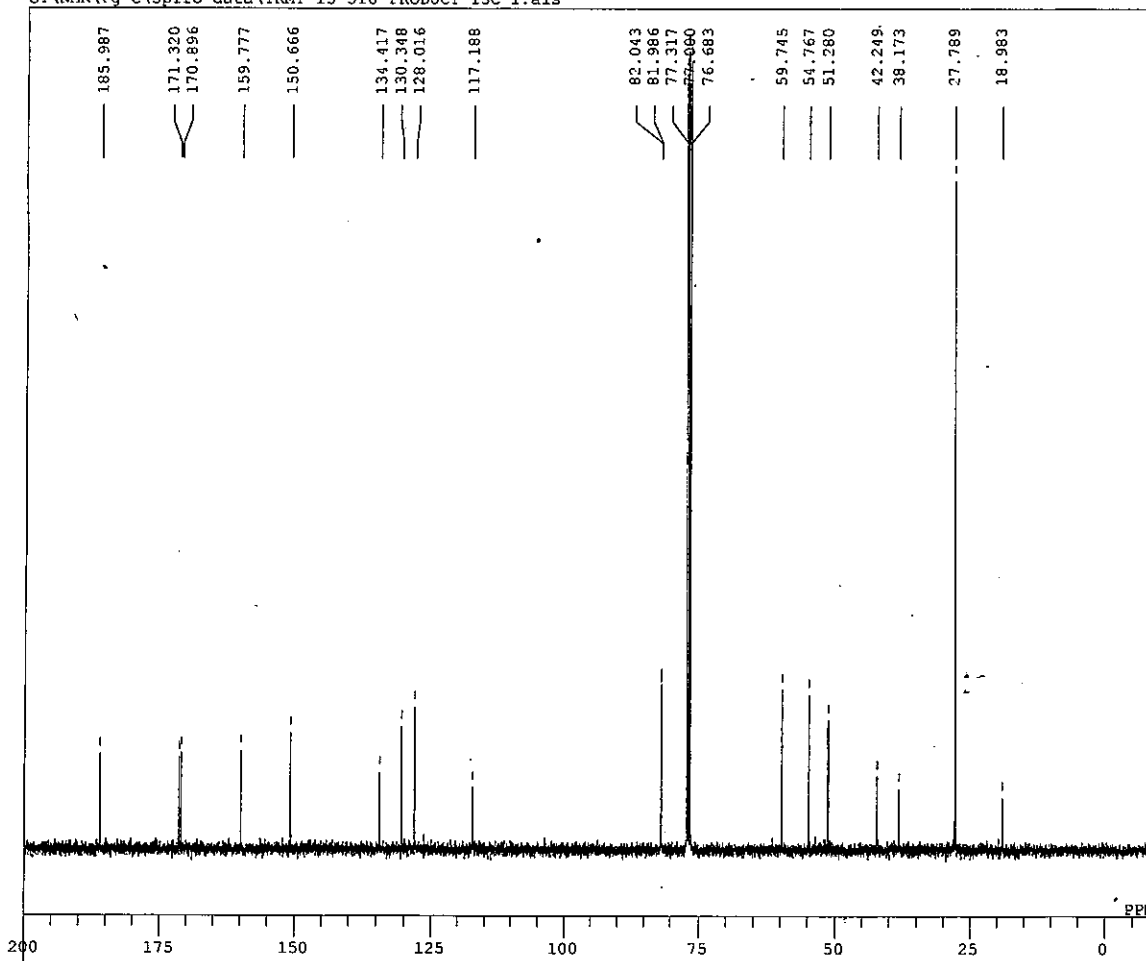


¹H NMR: 4i

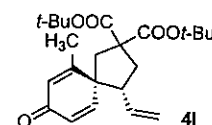
Inseparable
diastereo-mixture

YKMY-13-518-PRODUCT-13C

G:\NMR\g\c\spiro data\YKMY-13-518-PRODUCT-13C 1.als



DFILE YKMY-13-518-PRODUCT-13C 1.a
COMNT YKMY-13-518-PRODUCT-13C
DATIM 22-AUG-2010 17:06:12
OBNUC 13C
EXMOD single pulse dec
OBFRQ 100.00 MHz
OBSET 536.00 KHz
OBFIN 361.11 Hz
POINT 65536
FREQU 25188.92 Hz
SCANS 313
ACQTM 2.6018 sec
PD 1.5000 sec
PWL 3.50 usec
IRNUC 1H
CTEMP 22.6 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RGAIN 24



¹³C NMR: 4i